# TEACHING OF BEHAVIOR, GROWTH AND DEVELOPMENT IN THE PRECLINICAL YEARS

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In a recent paper the authors described an experimental course in Behaviour, Growth and Development presented to the first year medical class at McGill University during the 1967–68 academic year. This course was born out of a contemporary awareness among medical educators that an *in vivo* introduction to medical experience must be provided for medical students in their first year.

Other methods of providing this experience have included short courses, visits to mental hospitals, the following of a pregnant woman or the investigation of a health family in the community. These methods, because of their unevenness and discontinuity, have been criticized.

An historical review reveals that individuals have been available to teach behavioral science to medical students in the past. One need only think of such figures as William James, a double degree man. A contemporary of his, Charles McIntyre, in 1894, mapped out a course of medical sociology for the student emphasizing the study of medicine both as a profession and as an institution, the relevant points of social history, medical status roles and social interaction, social epidemiology and social etiology. Injecting these, and similar ideas into the milieu of

the medical school lecture theater has proceeded at a very slow rate, and in a shamefaced manner.

In the vast majority of cases, medical school curricula have been oriented to produce a strictly scientific base for medicine, rather than to provide the student with a model or frame of reference for practice. The Flexner Report of 1909–10 set an example for this orientation. Though Flexner vastly reinforced basic sciences in the medical curriculum, it was at the expense of the humane sciences. His efforts left the patient-doctor relation isolated from the social environment. Over the years social scientists have been brought in to correct this lack, but the results have been unsatisfactory. It is safe to draw the conclusion that the majority of medical students, basically accepted the message of the Flexner Report and turned a deaf ear when confronted with theories of medical psychology, sociology, demography and epidemiology.

Thurnblad and McCurdy point out that several problems confront the social scientist teaching in the medical school faculty. Primarily, he is likely to be isolated from the medical faculty. Second, he must repeatedly justify his importance. Third, his contacts with other medical scientists may become limited. Fourth, medical schools do not offer him senior positions, tenure and salaries comparable with physician faculty members. Finally, the social scientist is not prepared in his graduate training to teach medical students. At McGill this problem has been countered by utilizing, wherever possible, medical men or scientists who have had a great deal of experience with medical men.

In fact, efforts are now being made, quite generally in some medical schools, to provide *in vivo* experience for first-year students. Contemporary educators such as Douglas Bond of Case-Western have started the first year by interviewing a patient or having the class interview the patient. Bond tells of getting the patient to suggest the questions she felt would be most pertinent to her case, and of her success in doing so. This introduction to the native sense of the patient may be surprising for some stu-

dents, but it inspires immediate confidence in the interviewing situation and the doctor-patient relation.

An alternative method has been to build up a special non-medical behavioral sciences cadre or even department, utilizing medical practitioners only as lecturers. This method has been open to doubt, and it is not frequently employed.

The following discussion will present the progress to date of the McGill Medical School Behavioural Science Course per se, of the educators involved in it and of the now second-year students who took part in it. It will also consider the present first-year students, as they are confronted with the same problems in a new way.

## AIMS AND ORIENTATION OF THE COURSE

Individuals who are at all critical, are aware that many facts learned by medical students are not retained, no matter how much time is spent teaching them. Therefore, it is with some degree of relief that the behavior course has been accepted as primarily being one that will enable the students to develop appropriate attitudes toward their role as doctors, and their work as healers or investigators. Many facts are taught during the hours devoted to the course in first and second year, but the primary aim is to bring the student right into medicine and let him get a good eye-full. We want him to see the people he will be working with and the situations and conditioning factors of medical practice.

Studies have indicated that some kind of orienting behavior precedes almost any effective animal and human action. When a person is deprived of that orienting behavior or early experience, he is unlikely to learn fully the vital aspects of his work; in particular, the interpersonal aspects. He will, in all likelihood, look after himself adequately, but he may not relate fully with his colleagues, patients or families, whether his own or others.

Further to this, certain topics have traditionally been treated

by avoidance in most medical schools. They may remain as professional weak spots in the graduate. For example, reports by Sherwin Woods showed that 45 to 50 per cent of students in the University of Southern California felt markedly embarrassed about the discussion of sexual problems, either in an investigative or therapeutic approach. Lief and Burnap and Golden have commented at greater length on this difficulty. Evidence on this point has come forward from this year's course. A sexual attitude survey, designed and self-administered by this year's first year class at McGill, showed that a high proportion of the students felt specific teaching on sex counselling advisable for themselves.

Many other areas traditionally avoided, such as chronic illness, death and aging, received special attention in the course.

In short, the behavioral course is comfortably regarded as a method of presenting and promoting broader and more mature attitudes in the preclinical years of medicine.

## PROBLEMS IN ORIENTATION

Orienting medical educators and students to newer ideas of teaching has not been easy. Some reasons for this have been mentioned earlier. Other barriers may be explained by two recurrent and also ineradicable fantasies about medical education, which are to some extent matching in opposition. One is to the effect that the medical student is really a god apophanizing. Teachers must make sure that the student knows everything, and is perfect in knowledge and judgment before he even approaches the bedside; no effort is too much for him because he learns in keeping with how much he works and suffers. The other matching fantasy suggests that teachers are sorry for the medical student. It urges them on to make things easier for him and to spare him knowing anything the least bit onerous or irrelevant. Teachers by and large shuttle back and forth between these two positions, criticizing whomever of their colleagues is currently holding an opposite view; either overload-

ing or skimping the nascent god. Everyone wants an omnipotent and omniscient doctor and will need one eventually, so this problem can be expected to continue to exist for a long time to come. It is an attractive fantasy, one must admit, and it has various submanifestations, including the attitude that the student should, first of all, be a fully qualified scientist before he gets down off his horse and becomes an ordinary clinical slogger. It is fantasied that he should be capable of running a research program, even though he may be investigating only his patients' refractive errors.

The reader can appreciate how such attitudes and fantasies could create problems in achieving a workable behavioral course.

## METHODS OF TEACHING

It has been agreed upon, and well accepted by the teaching staff, that this course should not be a series of note-taking sessions. The tendency on the part of many educators is to present material in a manner that promotes the storage of information in sterile written packages. This is ideal for some topics, but to attempt this method of learning in a course that deals with attitudes could only lead to loss of conceptual thinking in the student. A short list of references, pertinent to each sectional topic, is presented to the students, but they are not given the message that "the truth" will be found in these books or papers. The following is a more detailed account of actual teaching methods and techniques.

### *Large Groups*

Much discussion has centered on the use of large and small groups or a combination of both. Informal conversations at a variety of medical centers have suggested that small groups are often ineffective. The reasons for this may be unskilled leadership or the very nature of the first-year student experience. And how natural is it for doctors to sit about for hours talking in

generalities? Students frequently report that they can remember going to these events, but deriving very little from them, except a feeling that the instructor was trying hard.

At McGill, although a number of first-class teachers is attached to the faculty, the number of full-time geographicals is not high compared to institutions in the United States. We have, therefore, been directed to utilize large-group teaching.

Whether by way of rationalization or serendipity, this has worked out well. One is reminded of the science fiction novel in which a number of children are born parthenogenetically in clutches to unwilling and unwary English women. These children have a number of uncanny abilities, of which only one will be mentioned here. When any one of a clutch learned a fact, his nine siblings learned the fact as well. All those who attend a single lecture are in a highly similar position. This type of learning can be mutually reinforcing, in that supporting and validating information is gained by the class, and is theirs to discuss as co-informed discussants.

Most students when confronted with a behavioral event that is strikingly presented will wish to check out their experience with others. This process has been referred to by the American psychoanalyst, Harry Stack Sullivan, as "consensual validation." It enables an individual, in situations where measures and standards are difficult to apply, to check out the nature and quality of an experience with others who were also exposed to it.

Provided a large class can be effectively reached in a presentation, it would be expected that much more consensual validation could be effected among its members than among a large number of smaller groups who have viewed a variety of differing events. In other words, even though the intention of the teachers and the students might have been to teach similar material, the naturally occurring situation differences in the events seen by differing groups will interfere with their ability to achieve mutually supporting confirmation.

One would expect that this type of learning would be more necessary for students beginning medicine than for those in the

later clinical years. Here a more varied experience would be preferable.

It is suggested that one of the primary tasks for first year teaching is to produce a happy pack of secure learners. The class would be together to learn and support each other in the pursuit of knowledge and skill. To learn all the possible misunderstandings and shortcomings is important, too, but later when student motivation is secure, and they have a sufficiency of facts and experience.

In the adolescence section of the course, a number of adolescents have been brought to the class and have been interviewed in groups by students, during intermission periods. This has given freedom to the audience to participate and to learn the technique of interviewing in a supportive setting. It has also permitted students to have the experience of interviewing a number of similar patients within a short period of time. It was possible for the students to move from one group to another, and afterward to discuss their experiences with the patient still present.

*Sound Tapes*

Tape recordings have been helpful under some circumstances. For instance, a pediatrician's morning "call-in hour" was played to the class by one of the pediatricians. It has been found, however, that tape recordings of interview situations provide too thin an experience for effective presentation.

*Video Tape Reproduction (VTR)*

Video-tape recordings, on the other hand, can present not only the sound but also the sight. This method still remains a risky affair. In competent hands, it gives the best single situation of any method and permits instant replay. Some difficulties remain. The stage managerial talents of physicians are not always of the highest level. Second, TV and VTR still continue to be at the threshold of technical feasibility, so that often the picture may be ruined by a number of technical faults. These may in-

clude the placement and sensitivity of the microphone, the amount of light, the condition of the camera, the compatibility of the video-tape recorder and/or editing machine, the projection apparatus for sound and sight, the accoustics of the room and so forth. The strong lights utilized in some studios have a hypnotizing effect on the performers and also on the producer and technician, thus resulting at times in a sequence of much longer length and less interest than is desirable. This has the effect of interfering with the audience's grasp of the subject, and should be watched for carefully.

However, it is to be expected that as VTR equipment improves, the old troubles with fuzzy outlines, poor contrast, frame tumbling and weird etching effects will disappear. May that time come soon!

*Films*

Films remain the main stand-by, and an increasing number are becoming available. Not everyone is aware of what films are available and distribution difficulties remain. Each course of this type would be wise to have some person specially appointed to maintain optimum supplies and services.

## MATERIAL

Table 1 presents an overview of the individual sections involved in the course. Each one of these sections is taught by a chairman and his committee who together prepare the material. Overlapping is prevented by holding organization meetings with all chairmen present and also by keeping an eye on the audiovisual material requested.

## TEACHING STAFF

The professional identity of the teachers is shown in Table 2. A total of 63 teachers was attached to the course in the two years. Interauditing of sections by a member of a different section is frequent, as is intraauditing of sections.

TABLE I. OUTLINE OF BEHAVIOR COURSE, FIRST YEAR, 1968–69

| *Behavior Section* | *Title* | *Hours* |
|---|---|---|
| 1 | Introduction | ½ |
| 2 | Interviewing | 14½ |
| 3 | Psychosomatic relationships | 6 |
| 4 | Individual family and group | 27 |
| 5 | Sociology and medicine | 15 |
| 6 | Separation and adoption | 6 |
| 7 | Subjective reaction to illness | 3 |
| 8 | Chronic disease and death | 6 |
| *Growth and Development* | | |
| 9 | Genetics | 3 |
| 10 | Pre- and perinatal adaptation | 6 |
| 11 | Adolescence | 3 |
| 12 | Involution and old age | 6 |
| 13 | Sex | 12 |
| | Total hours for first year | 108 |
| *Second Year* | | |
| 1 | Psychopathology | 12 |
| 2 | Drugs and behavior | 6 |
| | Total hours for second year | 18 |
| | Total hours for first and second years | 126 |

TABLE 2. TEACHERS IN THE 1968–69 BEHAVIORAL SCIENCE COURSE FOR FIRST AND SECOND YEAR

| *Field* | *Number of Teachers* |
|---|---|
| Biochemistry | 1 |
| Genetics | 1 |
| Pharmacology | 1 |
| Public Health | 1 |
| Surgery | 1 |
| Zoology | 1 |
| Law | 2 |
| Sociology | 3 |
| Clergy | 3 |
| Obstetrics and gynecology | 3 |
| Social Work | 4 |
| Psychology | 4 |
| Internal Medicine | 8 |
| Pediatrics | 14 |
| Psychiatry | 15 |
| Psychoanalysis | 1 |
| Total | 63 |

The objective evaluation mechanism presently used is a very rough, though probably not inaccurate measure, and the sampling has been uneven. It is felt that best results can probably be obtained by student raters, and this has already been the case in the physiology course during the past year.

The present lengthy instrument, which utilizes a seven-point scale, has been used for the second, and probably the last time this year. It has given comparable figures, and in some cases has overlapped exactly with last year's rating scale. At that time the coefficient of variation was calculated and found to be in the region of 20–65 per cent, which was considered to be within the statistical range of human judgments.

Certain other questions were addressed to the students, which may give material of interest to those planning such endeavors. First of all, the students appeared to be satisfied with the amount of didactic material they were given. There was a slight preponderance of those who requested more. They appeared also to be generally satisfied with the number of teachers that they had, and had few requests either for more or for less. When it came to the amount of time being devoted to the course, however, they made a strong bid for more time to be spent on it. Only slightly more than ten per cent of the students felt that too much time was spent. To be more specific, in only one of the 13 sections were requests made for less material. In two sections requests were made for fewer teachers, both of these being sections in which panel discussions or a rapid succession of talkers on diverse subjects characterized the program. In no section throughout the whole of the last year was a suggestion made that less time should be devoted to the work.

Consistent in each of the sections were requests for more video tape, more film, more patient exposure and more field work. When one compared the intensity of the requests for field work, which is looked upon as active participation, with requests for observer experience, such as video tape, patients and the like, the edge was for the passive type of participation.

More students expressed themselves as feeling that the course required an adequate amount of participation from them during the year, and that they were adequately encouraged to participate by the staff. Generally, however, they regarded the class size as being too large and asked for small-group discussion. An exception was the psychopathology section in which they were content to watch from a distance. These requests for more time were interpreted as indicating a successful presentation.

## ORGANIZATIONAL PROBLEMS

In reviewing the year some problems are seen that may have more general interest and solutions for which may prove useful.

After the uncertainty and excitement of the first year of the course, a decrease in tension was seen among the teachers. This was particularly noticeable by chairmen of subcommittees and the director of the course. They wished to polish over more brightly the service of the course, but did not find sympathy among those in their sections who were busy in the pursuit of their own practice, teaching or research projects. Those who offered complaints of lack of confidences, insufficiency of meetings and the publicizing of course events, kept interest lively.

The occasion of producing a new edition of the course booklet did provide an opportunity for some refurbishing, but it was found that many sections merely updated the old plan without doing any new thinking. As the year went on, opportunities to reorganize came up (usually on the basis of individual contact) and, in a considerable number of cases, a new version was produced. As mentioned earlier, the auditing of presentations by members of committees was somewhat less in evidence, and few went to the lectures of other groups. These meetings should be encouraged, as in almost every case individual committee members took fire and had reorganization meetings on the basis of what they had observed in other sections.

The true reinforcement was provided by the audience itself for the teachers had to face comments by a group of students

who were attending the course as critical observers rather than participants in the creation of a new entity. The amount of student-staff interaction outside the classroom has been much greater during the past year. Organizing protest meetings, and arrangements of visits from other areas have greatly increased the amount of interaction and the liveliness of the teaching and, it is expected, learning experience.

A few teachers have left McGill to go elsewhere, but two have returned to participate in this year's teaching, one on several occasions. It is also a pleasure to report that two Queen's teachers have from the beginning taught in the Behaviour Course, Dr. Partington and Dr. Campbell.

## STUDENT OBJECTORS AND CORRECTORS

This year's class turned out to be much more critical-minded than its predecessor. The previous group had agreed with the teachers in the course that they would do without an examination. They agreed that they themselves would be responsible for maintaining attendance, which they did to the last.

The present (1968–69) class came to a course that did not have an examination, but that had, so they felt, a built-in requirement that they should attend even if they did not want to. In the course of the second section on the individual and the group many complaints came forward. The students felt that they were receiving too much didactic material, and that they were being exposed to too little clinical material. They felt that they were being allowed to develop into the same kind of rather regrettable doctors that their elders appeared to be. Some of them felt that the course had a mission to produce a change so that a better and more idealistic type of man might be entering the profession. Without becoming positively angry or disruptive, they asked if the course chairman would meet with them to discuss what they felt were deficiencies in the course.

A meeting was held at which the curriculum committee of the class, a very elastic body, presented its ideas. Trouble at

this point was not unexpected. It had always been a problem that the psychologic material was known to some three-quarters of the class, from their undergraduate course and not likely to be absorbed in short order by those who came to medicine without any psychology. There appeared to be some substance to the complaint.

Along with it went a strong feeling that some lecturers should not be teaching. These men, excellent authorities and good one-to-one teachers, became increasingly scapegoated and, as the word got around, their performance deteriorated further. At one point, it seemed possible that the Behaviour Course might have to be cancelled as an unfortunate experiment, irretrievably come to grief. The response to this crisis, in the councils of the chairmen, was a call for changes to meet student demands. Others, however, felt that if changes took place, they would probably be for the worse and might in fact result in the disruption of the course, held together as it was, like the Spanish Armada, by tenuous lines of communication. Eventually, very little in the way of changes was made, time passed and the episode of disturbance fell away. A number of meetings were organized and these had the effect of increasing student-teacher understanding, and also of allowing the tension and urgency of the situation to pass.

Some changes were made in the structure of the social medicine section, which did not save it from being poorly attended (even at high points, less than 50 per cent of the class). It also drew the least popular rating, in spite of the fact that a great deal of reorganization took place within it, and a number of very original field work projects were organized and carried out with a good deal of faculty support. The net effect appeared to be that only some 40 per cent of the individuals found these changes satisfactory to them, and that a more didactic course form would have been preferred.

Another section that did much reorganizing in the course of its preparation was that on sex; this, however, with great success —for the second time the highest rating section.

## CHANGES DURING THE COMING YEAR

It is anticipated that a number of changes will be made again. The chairman of the Social Medicine section and an internist have agreed to lead a participant experience as a parallel second track. For a few weeks at the beginning of the year, the whole class will be taught together, but in late October and early November, when the students have become used to their class, they will be given the opportunity to break up into a doubled course. Dr. Joseph Lella of the Department of Sociology and Dr. Ronald Bayne of the Department of Medicine, have agreed to take this group in seminars and field projects, which they will organize in groups, and perhaps report back to the main body of the class on occasion. It is expected that probably 10 to 15 students will want to follow this method.

It would appear that basic psychology will be very much played down during the coming year. Those individuals who have not obtained a background in this field will be referred to a reading list. A certain amount of material will be presented, but it will be clinically oriented and taught by psychiatrists rather than psychologists.

A fellow has been added to the course. It is expected that he will be able to provide continuous contact with students and help us to understand more about their needs, being closer to them than most of the instructors. He can also help to set up a student rating of the course sections, and perhaps a before-and-after clinical comparison of the student opinion.

We will continue to depend on the interest of the subject and the skill of the teachers, and do not plan to reinstitute an examination.

A curriculum change involving the addition of electives of ten weeks in each of second and third year, and perhaps in fourth, has insured that the effects of the 136 hours of this course will be well mingled with extracurricular influences.

The behavior course was promised additional time in its second year and was, in fact, granted 36 hours in second year and a full three-hour afternoon of each week the first year.

EFFECTS OF THE COURSE

It is too early to know objectively what effect the Behaviour Course may have had upon the students who have taken it. However, informal comments by the teachers and tutors have been to the effect that these students have a greater clinical awareness and security in professional identification than their predecessors.

Attendance has been similar in both years; falling off badly during the individual psychology sections, recovering with the introduction of group and family discussions, falling away again with social medicine and regathering strength as more clinical material appears. Eighty-five per cent are currently attending the section on Sex, a tribute to the staff and the well-known gathering of the McGill students.

In considering what students mean by "relevance," the most ready answer so far appears to be that which is likely to strengthen the student's view of himself as an effective doctor. In other words, he is more likely to honor clinically orientated material and less likely to favor material more distantly related; i.e., basic science material.

In further studying the response of this class, it is noted that the attrition rate in subs, those who are a loss to the course (fall out on their own), those who are retired and those who repeat have been rather similar for the past three years. The attendance at student mental clinics has also been relatively constant. It had been thought that perhaps the Behaviour Course might alter the choice of electives, however, it does not appear to have done so. This year's second year electives show Medicine 24, Surgery 23, Pathology 16, Pediatrics 11, Community Mental Health Clinics 7, Psychiatry 6, Obstetrics-Gynecology, Neurology and Otolaryngology 4 each. This shows a heavy clinical preference but does not correlate in any other way with the list of teachers shown or the type of material taught. It should be noted that only one surgeon taught in the Behaviour Course, a defect that it is hoped will be remedied this year.

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has been much greater in the past year. Organizing protest meetings and arrangements of visits from other areas have greatly increased the amount of interaction and the liveliness of the teaching and learning experience.

The use of students as regular critics of teaching performance appears to have spread throughout the medical faculty and to be extensively relied on by many departments. A considerable esprit de corps appears to have been built up among the students who have in the course of the past two years started to invite, first of all, their girlfriends, then members of other years, then representatives of other faculties (sociology students) and finally, during the last year, students from the University of Montreal.

The medical identity appears to have been built up. The aim in inviting sociology students was that perhaps they might develop a new type of profession, a medical sociologist, who would share a part of the medical curriculum before he specialized in sociology. This idea, autochthonous within the student body, seemed to indicate a strong identification with the medical model to be present, even in first year. The faculty will, however, consider itself satisfied if one major aim is achieved, namely, the awareness and acceptance of social and psychologic aspects of illness. If students have a feeling that such processes and ethologic factors exist, it is to be expected that they will work much better with them than if they felt somehow they could be wished or scoffed away.