

Selected Learning Environment Instruments

Instruments referenced in Robins IAMSE presentation:

University of Michigan Medical School Questionnaire (Robins *et al*, 1996) Learning environment items included on more extensive questionnaire for curriculum evaluation.

Items:

1. Satisfaction with overall learning environment
2. Students receive an appropriate amount of constructive feedback
3. School is a comfortable place for people of all races and ethnicities to learn
4. School is a comfortable place for both men and women to learn
5. Overall educational program promotes critical thinking
6. Timely evaluation of students' performances
7. Medical student education is high priority for faculty
8. Faculty are responsive to students' concerns.

Attitudes toward basic sciences (West *et al*, 1982, based on Otis and Weiss, 1972, 1973)

Items measuring importance and relevance of the basic sciences to clinical medicine:

1. A physician can effectively treat most medical problems without knowing the details of the biological processes involved.
2. Most basic science research is so far removed from clinical medicine that its usefulness to the practicing doctor is slight.
3. Of the facets of a good physician, his/her knowledge of biological mechanisms is most important.
4. Applying the basic science of medicine to clinical practice is a skill which should be reinforced early on in medical education.
5. *Psychological factors are just as important as physical factors in the healing process.
*(This item not included in Kaufman & Mann follow-up study).

Items measuring values and perceived effectiveness of medical education in the basic sciences:

6. It is first necessary to learn as many facts as possible in the basic sciences and then learn to apply them later on in the clinical years.
7. What students should learn in basic sciences are the general concepts, in order that they might have a good working knowledge without having to know all the facts.
8. Faculty members excite students' curiosity through the teaching of the basic sciences.
9. The information and experiences I have received to date are fundamental to my future role as a physician.

Additional Instruments of Interest

Medical School Environment Index (MSEI) (Hutchins 1961). A 180-item questionnaire comprised of 18 scales of ten items each. Nine of these scales described faculty behaviors and nine identify characteristics of the student body. In the 1960s, Hutchins assessed the nature of medical school learning environments and studied their effects on students (1960 in J. Med. Educ. (36) 322-9, 1961) as part of the AAMC's longitudinal study of the class of 1960.

Scale No	Constructs	Sample Item
<i>Faculty press scales</i>		
1	Affiliation	Faculty members are typically friendly and sympathetic in manner.
2	Directiveness	The goals and purposes of the work are clearly defined for the student.
3	Enthusiasm	Faculty members put a lot of energy and enthusiasm into their teaching.
4	Achievement	Faculty members here really push the students' capacities to the limit.
5	Compliance	Students quickly learn what is acceptable and what is not acceptable in this school.
6	Supportiveness	The faculty is very supportive at the time when the student first begins to assume patient responsibility.
7	Humanism	The faculty here stresses the study of the patient as a whole person.
8	Independence	The school actively encourages students to undertake independent projects or theses.
9	Pragmatism	Education here tends to make students more practical and realistic.

Scale No	Constructs	Sample Item
<i>Student press scales</i>		
10	Academic achievement	Most students here are genuinely interested in studying and learning.
11	Aggression	Students exhibit a very authoritative attitude in the presence of patients.
12	Breadth of interests	The environment of the medical school stimulates interest in things other than pure medicine.
13	Competition	The competition for special honors is very rough.
14	Humanism	Most of the students here are concerned with the patient's personal problems as much as with the disease with which he is suffering.
15	Participation	Medical students participate in all aspects of University life here.
16	Reflectiveness	Serious philosophical discussions are common among the students.
17	Scientism	There is a lot of interest in the philosophy and methods of science.
18	Social conformity	Proper social forms and manners are important here.

Medical Schools Learning Environment Survey (Marshall 1978).

The dimensions of the MSLES:

1. Flexibility degree control imposed on students?

2. Student-student interaction	closeness?
3. Emotional climate	affective response to medical education?
4. Nurturance	supportiveness of faculty/staff?
5. Meaningful learning experience	what is perceived relevance of courses to medical practice?
6. Organization	how coherent are learning activities?
7. Breadth of interest	does school foster broad range of medically relevant activities?

Learning Environment Questionnaire (Adapted from MSLES, see Moore-West *et al*, 1989)

1. Meaningful learning experience:	what is perceived relevance of courses to medical practice?
2. Nurturance:	supportiveness of faculty/staff?
3. Flexibility	open flexible vs. closed rigid environment?
4. Emotional climate:	affective response to medical education?
5. Student-student interaction	closeness among students?

The Dundee Ready Education Environment Measure (Roff, S *et al* 1997)

This instrument was developed at the University of Dundee's Center for Medical Education in collaboration with an international panel of more than 100 health professions educators and more than a thousand students. The instrument is designed to be used across cultures and institutions and has been validated and tested in a wide range of settings.

Domain	Sample Item
1. Students' perception of learning	I am encouraged to participate in class
2. Students' perceptions of teachers	The teachers provide constructive criticism here
3. Students' academic self-perception	I am confident about passing this year
4. Students' perceptions of atmosphere	I feel able to ask the questions I want
5. Students' social self-perceptions	There is a good support system for students who get stressed

Learning Environment Survey (Pololi & Price, 2000) Developed by Pololi and Price in collaboration with other medical educators to assess students' perceptions of the learning environment

Dimension	Sample Item
1. Teacher-Learner Relationship	The faculty conveyed to me confidence in my abilities.
2. Student Self-Efficacy	I believe I will learn to be an effective doctor.
3. Physician-Patient Relationship	I believe that the physician-patient relationship is the most important aspect in the practice of medicine.