Experiential Learning Applied to Under-graduate Training of Physiotherapy Students

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OPSOMMING

Dié artikel handel oor die ervaringsleersiklus toegepas op voorgraadse onderrig vir fisioterapie studente. Die doel is om deur middel van die ervaringsleersiklus te help met die ontwikkeling van die student se vermoë tot analitiese, krities-evaluerende en skeppende denke asook sintese en die stimulering van selfstandige beoordeling van wetenskaplike gegewens. Dit is die mikpunt vir 'n suksesvolle fisioterapeut.

SUMMARY

This article describes the experiential learning model applied to undergraduate training of physiotherapy students. The aim is to aid the development of a student's ability towards analytical, critical-evaluating and creative thought processes, stimulating his/her independent judgement of scientific data. This is what the successful physiotherapist should aim for.

A major problem facing physiotherapy students is relating the technique-oriented training of second and third years to the clinically-oriented final year. This problem stems from the method of presenting the lectures. From the start the student should have clarity towards which goal he/she is working, i.e. where each part of the material fits into the whole concept. Concentrating solely on technique, the student is inclined to isolate aspects of his course, failing in his/her object to synthesise.

It is questionable whether the lecturer may still proceed with conventional class methods which implies that:

a. he/she is the main source of knowledge, and

b. the student is at best a listener, reproducing only according to the lecturer's prescription.

Experiential learning, which has as its basis the student's inherent and potential experience, creativity and active thinking, opposes conventional training methods.

Here the student is:

- placed in a problem situation with as little prescribing, information and spoonfeeding as possible from the lecturer;
- forced to try by himself/herself as well as within the group to find a solution to the problem;
- encouraged to continually report back on the possibilities and quality of his solutions;
- encouraged to apply and relate his findings to other general learning situations.

Robert Mager[1] points out that the "usual" structuring of study material may not be necessary where adult learners (as students really are), are involved. They also do not always need a lecturer to present them with their study material by means of a formal lecture. If these adult students are provided with goals, clearly defining what is expected from them in order to complete the course, a study guide as to where information may be obtained and a regimen outlining a course of action, they should be capable of mastering all the material. The lecturer may still be the most important source by being available at prescribed times to lead and help. He/she is not, however, the only source of information.

The value of learning by experience cannot be over emphasized. It implies that the student can work independently at tasks being created and planned by the lecturer, both in- and outside the classroom. Learning by doing and experiencing is productive when students apply their capabilities fully.

A study module, taking the student through the experiential learning process i.e. starting at concrete experience, is planned. The lecturer should, however,

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consider the level of training of his group. One cannot expect a first year student to achieve what a fourth year student is capable of doing.

According to Parry[3] the student progresses through four phases in developing his learning process:

1. Dualism

During this stage the individual recognises only two aspects of a situation:
Right or Wrong. Each question has only one correct answer. The lecturer has this answer and the student may not differ from him/her, and those who do, are wrong! First year students desperately want to know which answers the lecturer prefers, wanting only to produce what the lecturer requires. This probably stems from their need for security, which may be satisfied by the lecturer who supplies them with his scientific knowledge of the subject.

2. Plurism

Parry[3] states that during this phase the student realises that there may be "more than one", or more than only a right or a wrong answer; that even authorities may differ in opinion. This confuses the student to some extent, by not knowing what to believe, but on the other hand, he/she matures to the level of needing to express his/her own opinion as well. Being confused these students appear to be the "problem ones", namely noisy, appearing to be disrespectful, questioning everything the lecturer states, but also being unable to supply better alternatives.

3. Relativism

With this Parry[3] states that everybody seems only to possess a limited vision of reality, without having perfect perspective. So during this stage the student feels he may not criticise another who displays a different opinion than himself. Note how this viewpoint differs from the previous phase. It is not confusion that speaks anymore, but submission to the complexity of the realities around us. It gives the student the freedom to differ from other people; but more than that, it allows him to differ from himself.

4. Commitment

In this last phase of intellectual development, the student is of the opinion that he should widen his vision and on the strength of this he should draw his/her own logical conclusion and stick to it. According to Parry[3] this last phase represents real security to the student who now feels that he/she is independent, and need not feel threatened by other opinions. He may openly differ from other students or his lecturers without resorting to anger.

According to Parry[3] a person will, when presented with each new intellectual demand, approach it in the dualistic way. As he progresses through these demands, so he progresses through the phases of development. An important aspect here is a student's receptiveness to react to a new and uncertain situation. Researchers agree that training should meet a person's present level of functioning and that he should be guided further from there.

Educationally this has the implication that the activity one expects from a student should harmonise with his existing capabilities. This implies that activities given to the students in the experiential learning model should be applied according to their intellectual developmental status.

According to Kolb,[4] it is necessary for the student to progress through all the stages in the experiential learning model in order to develop professionally.[2]

Keeping the intellectual phases of Parry in mind, an outline of applying the experiential learning model is given below, together with the suggested methods of application in each quadrant.

APPLICATION OF EXPERIENTIAL LEARNING

According to Kolb,[4] the experiential learning model is a four stage cycle.

PHASE I

Kolb suggests that to start a learning activity the student needs to become acquainted with unknown or relatively new material to link to his own world of experience. This he calls the concrete experience in the cycle where the student has to master and react to this material without any external help.

Suggested methods of application (feeling)

1. *Students in the first developmental stage (dualism)*
Simple prestudy material: demonstration; slides.

2. *Students in the second developmental stage (plurism)*
Films; slides; demonstration; prestudy material from more than one source; simulation; field work.

3. *Student in the third developmental stage (relativism)*
Case studies; simulation; films; prestudy material.

4. *Students in the fourth developmental stage (commitment)*
Independent study; self study; assignments; fieldwork of various kinds.

PHASE II — Reflective observation

The benefit of this important phase lies in the "safe exposure" that students experience as they now have the opportunity of discussing their previous individual efforts with fellow students in a group session. They feel less threatened by sharing their thoughts with others and in so doing they observe their own mistakes rather than having to expose their lack of knowledge to the teacher openly in class or by failing a test paper.

Suggested methods of application (watching)

1. *Dualism*
Individual viewpoints; small group discussions.

2. *Plurism*
Small group discussions; debate; competition; question-and-answer sessions.

3. *Relativism*
Individual formation of a view point; debate; small group discussions; quizzes.

PHASE III

This phase is "abstract conceptualizing", implying that the solutions arrived at by a student should be augmented by the lecturer by translating it into the proper technical terminology, thereby presenting the subject matter in a useful and logical manner. This phase also gives the tutor the opportunity to add finesse to the material, clarifying uncertainties or merely confirming that the student's solutions were in fact correct, e.g. during a lecture session.

Suggested methods of application (thinking)

1. *Dualism*
Lecture; tutorial

2. *Plurism*
Lecture (live or on tape); handout; panel; forum; symposium.

3. *Relativism*
Lecture on (tape or live); handouts; panel; symposium; forum.

PHASE IV

This is the phase of active experimenting. The student must be given the opportunity to demonstrate the knowledge gained up to now, at the same time being able to appreciate those aspects which still can be improved. To this end he should complete a task which, when evaluated by his lecturer in terms of the original goals, will give the desired feedback to both student and tutor.

Suggested methods of application (doing)

1. *Dualism*
Tests; simple tasks.

2. *Plurism*
Different ways of evaluating students' ability to apply knowledge/skills; active roleplay; case studies; tests; assignments; fieldwork.

3. *Relativism*
Tests; case studies; assignments; seminar; fieldwork.

CONCLUSION

For the student to learn and absorb effectively, he should progress through the four phases which are:
1. Involving himself in a new experience framework, without prejudice;
2. Evaluating this situation from different perspectives;
3. Creating concepts which will organise his observations into logical theories;
4. Making intelligent decisions, which solve all related problems.

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5. Marais AM. *The Experience – directed method as applied to electrotherapy with particular reference to short wave diathermy.* Unpublished paper. U.O.F.S., 1984.

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