Theory of Teaching Physical Skills
OED 322-01

Read: Using Guided Problem Solving in Teaching Canoeing Strokes
Read: The Use of Comfort Zones in Teaching Motor Skills
Read: A Nordic Skiing Teaching Progression for the V-2 Skate

Instructor: J. Grant White
Office: Wh 312
Phone: Ext. 1350
E-Mail: gwhite@northland.edu
Schedule: MWF 11:30-12:20
Room: Wh 209


Please note: Students in need of academic or medical accommodation should contact Judi Holevatz, R.N., @ ext. 1340, Rm. 206 of the Ponzio Center.

A common element of professions addressed by the academic programs of Adventure Education, Therapeutic and Universal Design, Physical Education, and Athletics Coaching is the need to teach participants novel physical skills. For several reasons, physical skills are very difficult to teach and learn. Consider that physical skills have a cognitive component (the skill must be understood before it can be attempted) in addition to the obvious physical aspect. Each of these requires entirely different aptitudes. Add to this, fear of injury or embarrassment. If the participant fails to grasp a cognitive skill, the failure is largely private and invisible unless called upon to demonstrate use of the skill. In contrast, when the learner fails to properly execute a new physical skill, the failure is highly visible to all onlookers. All of this is substantially complicated by the fact that most of us have far less experience learning novel physical skills than cognitive ones. Most students in a motor learning situation are simply not very good at learning physical skills. If disability is added to this mix, a very difficult teaching/learning situation is the result.

Considering the above, it makes sense that students training for the professions alluded to previously, engage in a formal study of the learning process and relate that information to a variety of teaching methodologies. In this class, we will address three major questions:

1. How do humans learn cognitive/motor skills?
2. What strategies can help students to more effectively learn novel cognitive/ motor skills?
3. With due consideration to #1 and #2, how can we most effectively teach cognitive/motor skills?

During this class, we will attempt to answer these questions. This will be accomplished through a series of lectures and laboratory experiences. The current configuration of this class includes laboratory periods during which students will experiment with relevant pedagogies by teaching their fellow students.

The Course Progression:
Let the reader understand that, lacking accurate information re. enrollment and student schedules, it is currently impossible to estimate the amount of time required to complete the student practice teaching. This makes it impossible to design an accurate course syllabus. For these reasons, rather than list topics by week, I will list them in sequence. The timing of the sequence will evolve as the semester unfolds.
Content:

Introductory Concepts with Laboratories: Skill and skilled performance, Ability, Learning, Performance, The process of maturation as it applies to learning, Learning vs. performance, Research design, Concepts of learning/performance plateaus, ceiling and floor effects and their applications to the learning process.

Skill Classifications: Fine/gross, Discrete (and serial motor)/continuous, Open/closed, Classification boxes.

Groundwork for Student Teaching: Students generate a list of sample topics, Propose appropriate teaching themes (chaining, part or whole, transfers of learning, etc.), Develop these in class, Students select final topics, Propose methodologies and submit lesson outlines, Explain why the proposed method is an example of the technique in question, Critique and fine tune the lesson as a class exercise.

Content in Support of the Student Teaching Project: Task complexity/organization classifications, Task analysis, Skill families, Skill pyramids, Horizontal and vertical progressions, etc., Show-Teach-Practice progression, Part vs. whole method, Chaining, In depth coverage of transfer of learning.

Content Regarding the Learner: Overview of the nervous system (focus on the sensory systems), Kinesthesis, Proprioception, Attention levels/ readiness, Reaction time and r.t. research, Open loop and closed loop control/feedback models, Psychological Refractory Period, Hick’s Law, Maintenance of attention, Attention capacity models and learning stages, Schmidt’s motor control systems, Schmidt’s “Schema” theories, Memory, Knowledge of results (k.r.), Practice structure and variables.

Student Teaching and Debriefing: (according to class size, student schedules, and time requirements).

Text Readings:
The inclusion of student teaching in this class has necessitated that the sequence of topics be scrambled somewhat. I have considered mixing and matching the text readings and the course content. With this text, the authors have tried to produce a “set piece.” That is, they have been careful to design the text such that each chapter builds upon the one before it and sets up the one to follow. I have concluded that, to change the sequence would be to weaken the text. Therefore, the readings will not necessarily match the course content but course and text will complement one another. Please read these chapters as assigned.


Attendance:
Due to increasing problems with inattendance, it has become necessary to restate and reassert the attendance policy for this class. Understand that a grade in a class, in effect, certifies that the student has been exposed to the curriculum as described in the syllabus, has participated in all activities associated with the class, and has completed all assignments to a degree reflected in the final grade. In other words, you must attend the class, in order to pass the class!

That being said, the policy for attendance and late assignments with respect to grading is as follows:

Attendance in this class does count with 1 point being deducted from your final point total for each hour of unexcused absence. Excused absences include such things as illness, certain family obligations, and certain school sponsored activities and trips. Studying for an exam for another class is not an excused absence on the basis of it being a school sponsored activity. Misses can be made up by writing and submitting a paper which covers the material covered in class on the day in question. Under no circumstances should a student assume that by merely submitting a paper, they have made up for 100% of the class missed. In order to be considered equivalent, the paper must be of adequate length, substance, and quality based on the judgment of the course professor. For purposes of calculating a final grade for the class, the one point deduction for the absence will be thrown out if a paper is submitted. The paper will be graded, and the grade averaged with the scores on all other written work. Therefore, the degree to which the paper actually substitutes for the class experiences on the day missed will be directly reflected in the final grade.

Because this professor has had students run a Doctor’s appointment scam as a means to generate excused absences, he will expect students to schedule medical appointments outside of class time. Exceptions will be made for emergencies and extenuating circumstances.

In this class, attendance is taken with an attendance sheet. Any forgeries of signatures (another scam) will result in the hour being counted as an unexcused absence for both the forger and the person for whom the forgery was attempted.

Late Work:
Because students are permitted to negotiate due dates for exams, all exams must be turned in on time. Points will be deducted for work turned in late at the rate of ~5%/day late. If you feel that you need a due date extension on the basis of special circumstances, you must make arrangements with the instructor prior to the due date. Permission will not be granted retroactively.
**Evaluation:**
Students will be evaluated with mid-term and final take home exams and written assignments associated with lab work and student teaching exercises. For the take home exams, group work is permissible and even desirable. It is possible for a study group to submit a common paper if desired.

**Grading:**
Grades in this class will be calculated on a straight percentage basis. This is accomplished by dividing the number of points earned by the total number of points possible. I do not grade on improvement except to the extent that improved scores will bolster the student’s overall point total. Full and enthusiastic class participation is expected of all students and should not be viewed as something extra that can be counted on to compensate for poor performance on written assignments.

The grading scale is as follows: 93-100 A; 90-92 A-; 87-89 B+; 83-86 B; 80-82 B-; 77-79 C+; 73-76 C; 70-72 C-; 67-69 D+; 60-66 D; 0-59 F.