

Education 475-4 Designs for Learning: Mathematics

ELEMENTARY

REGULAR SUMMER SEMESTER, 1983

INSTRUCTOR: A. J. (Sandy) Dawson  
Sarah Joyce

Wednesday, 5:30 - 9:20

Office: MPX 8632  
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OR

Friday, 8:30 - 12:20

LOCATION: on campus

OBJECTIVES:

The course is designed for prospective and practising elementary school teachers who wish to explore the fundamentals of the learning/teaching process as it applies to mathematics. The course will be operated in a workshop fashion with students expected to:

- become familiar with and confident in the use of a variety of manipulative aids such as colored rods, logic blocks, geo-boards, and so on;
- engage in discussion and formulate their own rationale as to the how and why of teaching mathematics;
- explore the realities of children's and adult's learning powers and patterns by an examination of their own learning powers and patterns.

On completion of the course it is hoped that teachers will feel more at ease with the subject of mathematics, be able to deal confidently with the prescribed curriculum, and be able to plan mathematical instruction within a consistent framework.

OUTLINE OF TOPICS:

The topics to be dealt with are the usual contents of the B.C. Curriculum which will be examined from a methodological perspective (how do you teach multiplication, fractions, etc.), from the viewpoint of mathematics (what is multiplication, what are fractions, etc.), and from the vantage point of the role of mathematics in everyone's learning of language and general growth (eg. integration of other subjects, relationships to language arts, and so on).

TYPICAL REQUIREMENTS:

Students will be expected to:

- participate fully in classwork and discussions, and complete homework assignments;
- study their own strengths, weaknesses, and questions vis-a-vis the teaching/learning of mathematics, and to keep a record--a journal--of this study;
- prepare and teach a prototype lesson demonstrating their facility in using and understanding of some manipulative aid appropriate to mathematics instruction;
- complete a term project developed in consultation with the instructor.

ELIGIBILITY: Education 401/402 or equivalent.

TEXTBOOKS:

Trivett, John V. . . . And So On: New Designs for Teaching Mathematics. Calgary: Deselig Enterprises Ltd., 1980.

Dawson, A.J.(Sandy). Children Teaching Themselves Mathematics. Vancouver: S.F.U., 1981. (Available from Instructor)