

EDMONTON PUBLIC SCHOOLS

June 20, 2000

TO: Board of Trustees

FROM: Emery Dossdall, Superintendent

SUBJECT: Qualifications for Secondary Language Arts and Mathematics Teachers

ORIGINATOR: Angus McBeath

RESOURCE STAFF: Audrey Gardiner, Veda Lastiwka, Jennifer Lawley, George Rice, Stuart Wachowicz, Stephen Wright

RECOMMENDATION

1. That the revised Board Policy HE.BP (Organization for Instruction) be approved.
2. That an Administrative Regulation be established to govern the qualifications of secondary mathematics and English teachers presently working with the district and the recruitment of new English and mathematics teachers.

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Background:

In keeping with recent district practice, board policies containing guidelines for operation of schools, are better placed as Administrative Regulations, thus such policies are to be amended and new Administrative Regulations will be created. The profiling of teacher qualifications that guide a principal in making teacher assignments represents such a case.

The possession of a solid background in mathematics provides the mathematics teacher with a significant advantage in the act of teaching mathematics and so maximizes student achievement. The teacher's subject background must extend well beyond the subject matter that is expected to be taught. Such an extensive knowledge of the subject permits the teacher to bring meaningful real world examples into the teaching. The teacher is more enabled to pose problem settings around which the subject can be developed, justify topics and emphasize the "why" and not just the "how". A strong knowledge background also enables the teacher to motivate students with references to history and the development of mathematics, and to make professional judgments as to what concepts are critical to future learning.

The proposed policy and administrative regulations would require mathematics teachers to have some specific mathematics training in their background, or provide time for staff

without such a background to acquire it. The policy and regulations would also influence the courses students select while preparing to become secondary teachers in our district.

The common practice of providing one day or shorter inservices for math teachers is useful in order to convey new curriculum information, or to introduce staff to specific new techniques. While good for informing staff in new ideas or processes, this practice does not significantly improve the teacher's knowledge base in the subject content, and may not bring lasting change in pedagogical practice or student achievement.

Many teachers, presently teaching mathematics in our district, understand they are not thoroughly knowledgeable about the subject matter they are teaching, and thus have difficulty providing deeper explanations to students or providing practical examples of the utility of the concept in question. Many would appreciate access to additional training in the subject. A course can be prepared in partnership between Edmonton Public Schools, Grant McEwan College and the Faculty of Science at the University of Alberta. Both institutions would recognize courses for university credit, although the courses would be somewhat tailored to meet needs the district identifies. These courses would not deal with the process of instruction but would be dedicated to courses in mathematical content.

To assist teachers who presently do not possess a math background and who have been away from university for some time, the program has been designed to begin slowly and provide the teacher with four years to acquire the training. Courses will be available at different levels, including an introductory course which teachers may chose, which will provide a review of high school mathematical principles. This will prepare the way for other courses which can enrich the teachers' background in topics such as number theory, algebra and geometry.

The Alberta Teachers' Association local have been consulted and have indicated initial support for the concept in principle as long as the district identifies resources to cover the cost of the proposed upgrading.

The proposal presents a win-win situation for all concerned. Teachers will be provided with an opportunity to enrich their knowledge background in mathematics, while students will directly benefit from the added depth teachers can provide. In addition such an approach cannot help but enhance the professional image of the district's teaching staff. Edmonton Public Schools, through this proposal, can be seen to have taken a leadership role in supporting teachers to meet ever more complicated curriculum demands. The district is also provided with the opportunity to build partnerships and strategic alliances with post-secondary institutions which can offer further advantages to district staff.

The cost of the program to the district will be small considering the long term impact it will have. Initial estimates indicate that upgrading one hundred teachers in one course would cost just under \$30,000. Given that estimates show that about one hundred district teachers would be in need of additional training, the total investment in staff training over a four year period would be \$90,000.

The courses, offered in evenings, weekends or during summer, would allow staff to make personal contact with other math teachers and with the post-secondary instructors. It can be arranged as part of the agreement, to have instructors come into classrooms, at the teacher's

request, to assist with difficult or innovative concepts providing a resource expertise that would otherwise not be available, at no cost to schools. It is also possible to monitor the impact of the program to help the district determine if such programs can improve student achievement in other curricular areas.

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APPENDIX I: HE.BP – Organization for Instruction

APPENDIX II: Draft Administrative Regulation - Qualifications for Instruction