CATHERINE KIERANS

VISUAL JOURNALING IN AN ALTERNATIVE MATHEMATICS CLASSROOM

Introduction

Some students at my alternative secondary school have had a long-term dislike of mathematics that has negatively affected their attendance, progress, marks, and engagement throughout most of their experiences in mathematics courses. I have noticed that many of these same students have been enthusiastically involved in artistic endeavours, especially in art therapy classes and graffiti artwork projects. In consideration of those factors, the purpose of this study was to determine the efficacy of using visual journals in secondary mathematics classroom (Grades 8 – 10) composed of reluctant and discouraged learners. I explored the affect of using visual journals on improving attitude, attendance, and comprehension of students who are disengaged learners in an alternative mathematics classroom. I hoped to tie into students’ natural interests and visual capabilities to make math more accessible, meaningful, and fun. Based on my personal experiences with visual journaling, I projected that students would (1) attend classes on a more regular basis, (2) possess a more positive attitude toward mathematics that allows them to be more willing to learn, and (3) increase their engagement in mathematics classroom work and assignments.

My students are not alone in their dislike of math. When I identify myself as a mathematics teacher, many adults often volunteer that they have never liked math. Even in the press, mathematics has been reported as being a challenging subject, as evidenced recently by a headline in the Calgary Herald (McGinnis, 2010) newspaper, “Mathematics is the most ‘catastrophic’ subject for students, and even induces panic in many adults.” The article contains comments many of us mathematics teachers have heard, quips like "I shouldn't be allowed to do math!" or “The subject we love to hate.”

While math is perhaps the least liked subject at my alternative secondary school, most students have openly expressed their enjoyment of art. Our hallways are decorated with artwork that clearly demonstrates the creative and emerging talents of our young students. In addition to the regularly scheduled art course, art therapy classes began several years ago as an infrequent pullout with an external art therapist. The popularity of the program expanded into what we have today, with a full-time art therapist who has developed an inspiring, innovative, phenomenal program that now consists of at least ninety student participants, approximately 75% of our school population. Although students enter the pullout program initially to participate in extra artistic activities, they usually benefit personally,
emotionally, and socially from the opportunities to express themselves in a safe learning environment. Students may enter the art room stressed and flustered, and usually leave in an elevated and calm mood. Thorsen (2010) believes in the therapeutic power of art and says her role in the art therapy program is to “facilitate artistic expression thereby empowering the student and lifting mood” (p. 1). This change in mood often does not happen in a math classroom without a great deal of staff intervention and creative problem solving. That is why I considered how bringing art into the mathematics curriculum may help with this considerable concern.

I first became involved with visual journaling through two recent summer courses, and found the experiences challenging as I adjusted to the new approach of expressing myself and my learning through art and journaling. Yet the process was thoroughly enjoyable and the results were surprisingly satisfying. I was especially impressed with the unanimous positive responses from my fellow graduate students. The pages of our journals gave evidence to the effect that visual journaling had on our engagement and our learning. I considered the potential for using a visual journal in a mathematics classroom and the thought became reality through the present research project at the end of the 2009-2010 school year.

My School

The Alternate Secondary School in which I teach was established in 1974 to provide an educational program for those students who were not able to meet the expectations of North Vancouver mainstream schools. It started out as a small program for 12 potential dropouts between Grades 8 through 10, and has gradually expanded to include students from Grades 8 through 12. Our enrolment now averages around 150 students, with about 55% boys and 45% girls, aged between 13 to 19 years old. Most of the students (96) are registered in our main program for Grades 8 through 10.

Students who enter the main program are considered at-risk for school failure for complex reasons that include academic, behavioural, mental health, and social concerns. Entrance into our main program is also recommended for those students who would benefit from a more individualized, supportive program. Students can enrol at any time of the year and are placed in one of eight homeroom groups composed of twelve students in Grades 8 through 10. Along with small-sized classes and teacher to student ratios of 1:6, we offer core subjects on a daily basis (Math, English, Social Studies and Science) and some electives every other day (PE, Art, Information Technology) or once a week (Planning and Woodworking).

I am currently one of the two math teachers. Students in our classes work in individualized programs following grade-level mathematics curriculum, which have been modified and adapted to meet their learning needs. Unlike mainstream schools’ evaluation processes, students earn marks based on their attendance and effort. There is less emphasis on the usual assessment strategies such as test results and homework completion, as those approaches have not worked for these at-risk students.