



RESULTS SUMMARY

Developing 21st Century Skills Through Technology Integration

David K. Vandergugten
Director of Education / Deputy Superintendent
School District No. 42, Maple Ridge - Pitt Meadows



Setting the Course...

- 2009-2010 was the first year of the 21st century skills project.
- A large focus has been to develop and try out assessment materials for developing inquiry plans, processes of inquiry, and presentations of inquiry project results.
- Assessment materials follow the BC Performance Standards pattern of using clearly established criteria to describe student achievement in terms of expectations (not yet meeting; meeting at minimal to moderate level; fully meeting; exceeding).
- Data from Spring 2010 will become baseline data for subsequent years.

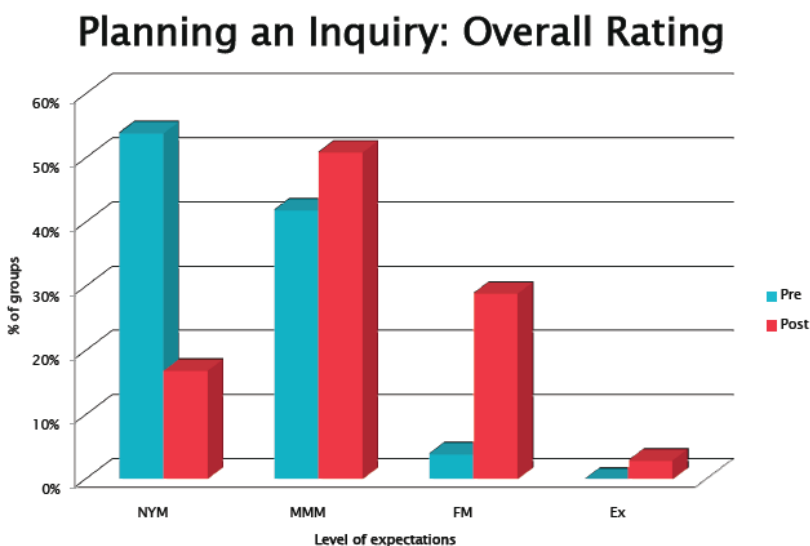


21st Century Skills Project: The Data

COMPARING PRE-POST PLANNING SKILLS...

Although it was not feasible to ask students to do 'pre' inquiry projects, we did ask them to create plans for an inquiry related to the importance of celebrities before we provided instruction. These plans were collected, stored, and eventually scored against the plans for "final" projects in April by teams of teachers.

Assessment criteria included overall quality, development of questions, planning, creativity, collaboration, use of resources and technology, and the evaluation of sources.



What have we done so far?

- Results from previous years demonstrate clearly that the laptop program improves writing.
- Students today need an increasing array of '21st Century' skills that enable them to meet new challenges, solve problems, and use the tools and technology of today and tomorrow.
- Inquiry and challenge-based learning combine the strengths of traditional learning with new directions that engage students and extend and deepen their learning.
- This project was designed to build on the strengths in improving writing, the strong capacity for supporting technology integration, and increasing research on the impact of inquiry and challenge.

21st Century Skills include:

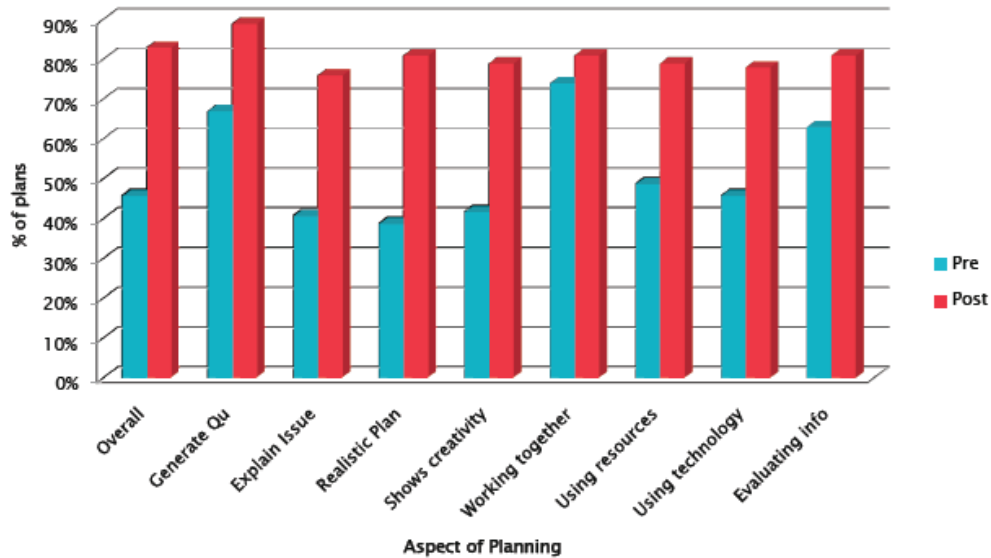
- Developing inquiry questions
- Planning
- Gathering and evaluating information
- Collaborating
- Reasoning
- Creativity and innovation
- Using technology tools
- Presenting information and ideas



Areas of student learning for the future:

- Skills that students need to be successful as learners, citizens, and at work in the 21st century
- Research, inquiry and action on real-world issues that involve applying what they learn

Planning an Inquiry: % of Plans that Met Expectations on Each Aspect



Final Inquiries and Presentations

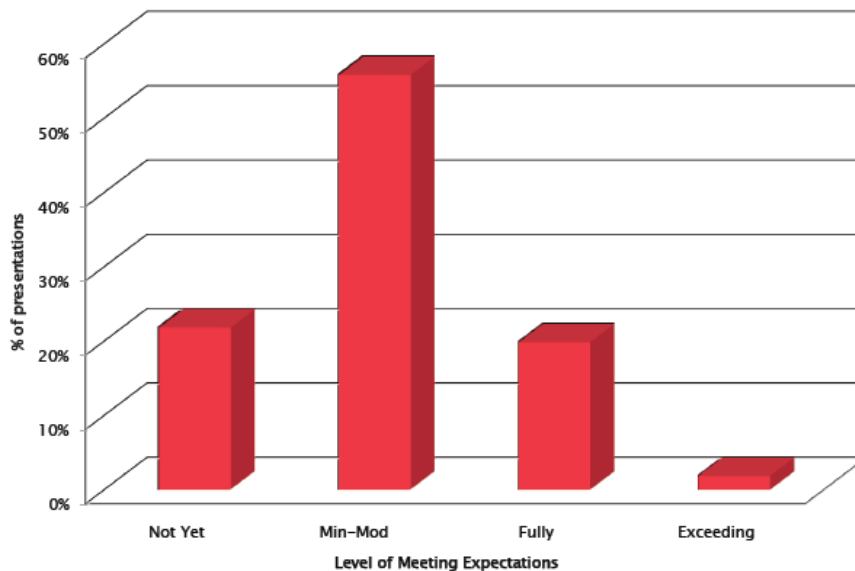
In May, students worked in groups of 2 - 4 to develop an inquiry question related to improving their own community; to plan all aspects of the inquiry, including information sources, strategies for working together, and how the results would be presented; and to create a presentation summarizing their inquiry and presenting their solution or response to the inquiry question.

ASSESSING THE PRESENTATIONS:

Teams of three teachers assessed each project presentation using a rubric that evaluated both content and presentation (i.e., understanding the issue, use of evidence, logical reasoning, use of technology tools, vocabulary and conventions, clarity and impact).

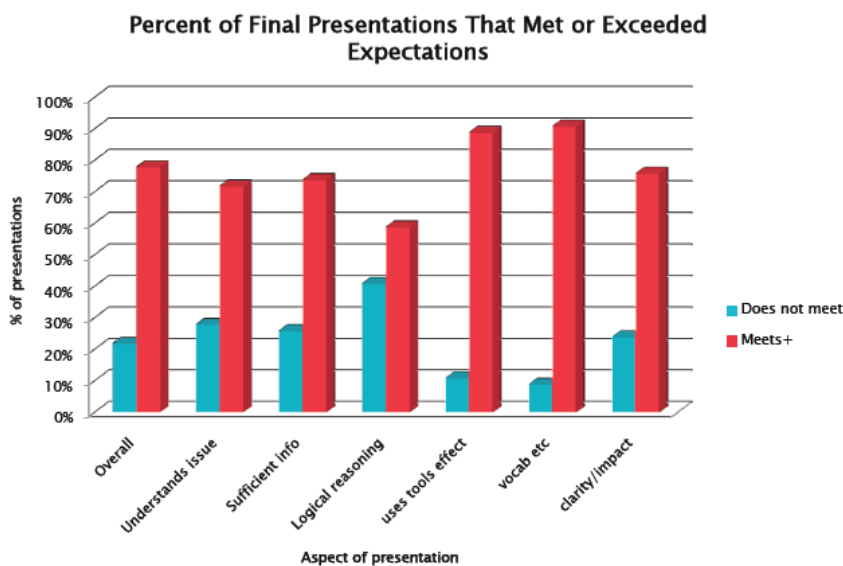
Projects were presented in a wide variety of formats, including iMovies and PowerPoint.

Final Presentations: Overall Rating



% of Final Presentations that Met or Exceeded Expectations on Various Aspects

Students demonstrated varying levels of skill in specific aspects of their inquiries. As shown in the following graph, their achievement was overall somewhat greater for presentation (e.g., use of technology tools) than for content (e.g., understanding the issue, logical reasoning). At least 70% of projects met or exceeded expectations on all aspects except “logical reasoning,” where “fully meeting” was defined as, “uses evidence and logical reasoning to solve the problem in a useful/plausible way.”



Continued Planning...

- Focus a year-plan on developing student learning skills and strategies for inquiry, including smaller projects and presentations and inquiries that are associated with various subject areas.
- Develop a ‘bank’ of exemplars that illustrate the range of student work that can be expected.
- Create additional opportunities for students to share their inquiry projects and presentations.
- Support teachers in transitioning their use of inquiry based learning to all subject areas.
- Increased opportunities for teachers to share strategies, issues, and samples of student work.

Note about achievement

This was the first year that many teachers focused on sustained inquiry and 21st Century Skills. In less than 5 months, they introduced students to the skills, processes and strategies needed, and provided ongoing instruction in new technologies.

It is difficult to master this complex and difficult set of skills. The results exceeded the expectations of the project team and are a credit to the teachers and students.

The results are particularly encouraging in those classrooms where teachers had no previous experience using laptops in their classrooms.

