

System-Wide Issues

Essential Question:

1) How can we address the problem of subgroups scoring below benchmark?

Findings	Recommendations	Action Items
- Addressing the difficulties experienced by some students is a regular topic of discussion and focus of effort. In grades K-1, the Bridges in Math curriculum was chosen to replace Everyday Mathematics, in part, because it was judged to be more accessible to students with difficulties. In grade 2, the Everyday Mathematics curriculum was supplemented with the Number Corner component of Bridges for the same reason. (TI, FI) - In grades 3-5 teachers supplement Everyday Mathematics extensively to fill gaps and to differentiate instruction. (TI, FI) - At JGMS, the decrease in the use of CMP has resulted in a decrease in the use of real-world applications. (CO, TI, FI) - At JGMS and BHS, most classes do not connect the mathematics with real-world applications. (CO, FI) - At the high school, calculators are used infrequently or not at all in most classes. Most classes are teacher-centered (CO, SI, SSI, TI, FI.) - Each year, the elementary coordinator and program administrator write MCAS reports which detail the performance of subgroups on individual strands and question types. With each year, MCAS data accumulates which will make trends progressively clear. Tools for analyzing the data (primarily, Test Wiz) are getting more convenient and powerful. (AD, FI.)	1. Increase use of real-world applications and inquiry-based instruction at JGMS and BHS.	→ JGMS: this will be addressed in either a new curriculum or a reinvestment in CMP. → BHS: Include this in the 3-year plan for developing common practices (see Action Plan-page 9)
	2. Explore possibilities for flexible grouping at JGMS (this may help to alleviate concerns over leveling issues as well.)	→ Form action team to assess feasibility of flexible grouping in the 6 th grade.
	3. Increase the use of technology in math classes at all levels, where it enhances instruction.	→ Elementary: continue ongoing efforts to find websites matching the Everyday Math curriculum which will enhance instruction. Review position on calculators (to be found in curriculum binders) adopted in 2002. → JGMS and BHS: Place technology training on the summer workshop and dept. meeting agendas.
	4. Communicate result of analysis of MCAS data more effectively to teachers at all levels.	→ Establish systematic schedule for communicating MCAS findings at grade level or department meetings.

System-Wide Issues

Essential Question: 2) How can we improve communication among teachers at the grades 2-3, 5-6, and 8-9 transition points?

Findings	Recommendations	Action Items
There is very little communication occurring at the grade 5-6 and 8-9 transition points. In contrast, the elementary steering team meetings effectively provide for exchange at the grade 2-3 transition point. (TI, AI, FI)	Schedule more meetings for grade 5-6 and 8-9 teachers. Carefully plan these meetings to make sure they have clear and explicit objectives and tight agendas.	→ Schedule two yearly meetings for grade 5-6 and for grade 8-9, to take place in either the half or full release days. Possible agenda items include MCAS issues, consistency in the use of vocabulary and algorithms, tracking the performance of struggling individuals and subgroups, and articulation of the gifted and talented programs between schools.

Elementary Issues

Essential Question: 3) We feel that the Number Sense strand is the "glue" that helps to integrate understanding in all the strands. To what extent is this reflected in our instruction? Are we doing enough?

Findings	Recommendation
Number sense is a central guiding principle in elementary instruction. The Bridges in Math program was chosen largely because of its increased emphasis on this strand; the Everyday Mathematics program has been supplemented liberally to increase focus on this strand. (CO, TI, FI, CD)	We do not recommend additional efforts in this area.

Elementary Issues

Essential Question:

4) How can we provide help for struggling students, including those who have not been identified as SPED? (In addition, is there a math program that would be better suited to meet the needs of the students who are in the parallel math program?)

Findings	Recommendations	Action Items
- The Visiting Team is not aware of a curriculum specifically geared to this group of students. (VT) - Flexible grouping is an evident success where it is employed. (CO, TI, FI, AI) - Teachers report that despite the excellent curriculum sampling binders, teachers vary in their use of supplementary materials. (TI) - SPED staff have recommended greater coordination with regular staff to meet the needs of students with IEPs. (SSI) - There is insufficient articulation between the regular K-5 math curriculum and the math curriculum used by SPED. (SSI, FI)	1. Extend the use of flexible grouping where possible.	→ Present this recommendation to the new Lane School principal.
	2. Meet with SPED staff in September to a) coordinate efforts for the year to support struggling students, and b) coordinate SPED math curriculum with regular curriculum.	→ Schedule meeting of SPED program director, elementary SPED directors, math curriculum coordinator, and elementary principals to review SPED programming in mathematics, K-5.
	3. Provide SPED staff with professional development in best instructional practices for math.	
	4. Examine student classwork or MCAS work in grades 6-8 to identify where preparation is weakest.	→ Establish systematic schedule for communicating MCAS findings in grade level meetings.

Middle School Issues

Essential Question:

5) Are we taking appropriate steps to improve the JGMS mathematics program?

Findings	Recommendations	Action Items
- JGMS teachers are not satisfied with the CMP curriculum; they are not using it consistently, and are supplementing extensively. (CO, TI, FI) - CMP-2 does not resolve readability problems, as hoped. (TI, FI) - Parents express a substantial amount of dissatisfaction with the curriculum. Their complaints focus on the amount of reading and writing and a perceived lack of basic skills preparation. (PS, PI) - Parents and students express dissatisfaction with existing levels at JGMS, in most cases believing that there should be an additional level. (PS, PI, SS, SI) - It is likely that classes will be increased from 41 to 55 minutes in September of 2008. (AI, FI)	1. Establish an explicit process for deciding whether a new curriculum should be chosen; and, if so, which one.	→ Done.
	2. Educate staff on the importance of considering a standards-based program aligned with the Principles and Standards for School Mathematics (NCTM, 2003)	→ Done.
	3. Provide ample teacher training for a new curriculum or for a reinvestment in CMP.	→ Allocate funds to support summer workshops in 2008 and 2009 to train JGMS teachers in best practices for the chosen curriculum.
	4. Explore opportunities for flexible grouping.	→ Form action team to assess the feasibility of flexible grouping in the 6th grade.
	5. Provide augmented administrative support at JGMS during the process of establishing an improved curriculum.	→ Provide a curriculum and instruction mentor for JGMS teachers or release time for the program administrator to support change.
	6. Make sure that the updated curriculum aligns with Bedford's mission statement, the state frameworks, and the NCTM Standards.	→ Ensure alignment as part of the summer workshop agenda.

High School Issues

**Essential
Question:**

6) How can we improve our process for assigning placements?

Findings	Recommendations	Action Items
- There are widespread complaints from parents and students about 9th grade placements. This is true despite the fact that the current process is thoughtful, documented, and has been communicated in various ways. (PI, SI, PS, SS) - The “continuing” courses, which were instituted to increase options for students, have not alleviated student and parent concerns. Once assigned to the continuing sequence, it is difficult for students to move up in level. (PI, SI, FI)	1. Carefully document and identify parental concerns.	→ Explore the adoption of a uniform school- or system-wide template to document parental concerns. → Administer surveys, such as that which was done online as part of the self-study, on a regular schedule.
	2. Increase efforts to communicate to parents and students the level assignment rubric and the possible pathways for changing levels.	→ Publish this information on the BHS website, → Discuss with the guidance department ways to convey this information more effectively.
	3. Create a rubric for changing levels.	→ Create an action team composed of teachers, counselors, and administrators to: a) explore the feasibility of a school-wide rubric for changing levels; b) identify existing pathways for changing levels, and; c) explore new pathways.
	4. Explore ways to provide more pathways for students to change levels; e.g., summer school courses and packets for independent work.	

High School Issues

Essential Question:

7) Should we seek greater consistency in high school assessments?

Findings	Recommendations	Action Items
This was not identified as a major problem. However, variations in teacher practices have led to inequities in common assessments; when, for example, some teachers within a course allow the use of calculators on tests while others do not. (SI)	1. Identify <u>and promote</u> common practices within courses, levels, and the department, particularly as these relate to common assessments.	→ Include this in the 3-year plan for developing common practices (see Action Plan-page 9)

High School Issues

Essential Question:

8) How can we teach to all the frameworks called for in the level 3 and level 4 curricula?

Findings	Recommendations	Action Items
	1. The increased use of standards-based methods and real-world applications we recommend elsewhere are likely to be more time-intensive than traditional methods. If there is excessive pressure to cover the level 3 and 4 curricula, the scopes of these curricula should be trimmed.	→ Review scope of level 3 and 4 curricula as part of the 3-year plan for developing common practices (see Action Plan-page 9)

High School Issues

Essential Question:

9) How can we achieve more effective differentiation of instruction in levels 3 and 4 at the high school?

Findings	Recommendations	Action Items
There is little use of technology, inquiry-based instruction, or real-world applications in level 3 and 4 courses. (CO, SI, TI, FI)	Provide professional development and workshop time to enable teachers to acquire best practices for the differentiation of instruction.	→ Include this in the 3-year plan for developing common practices (see Action Plan-page 9)

High School Issues

Essential Question:

10) How well does curriculum and instruction make mathematics authentic for students?

Findings	Recommendations	Action Items
- Some students and parents perceive that the curriculum is geared for stronger math students. (SS, SI, PI) - The traditional curriculum is more likely to be viewed as authentic by upper-level students because they can see how it leads to the more advanced courses they expect to be taking. (SS, SI) - Most of the real-world applications in use are found in upper-level courses. (CD,CO)	The department should identify what authentic instruction means for every level and course.	→ Include these in the 3-year plan for developing common practices (see Action Plan-page 9)
	Common practices should be identified to ensure that instruction is more authentic department-wide. This effort should be supported with summer workshop time and meeting time during the school year.	

High School Issues

Essential Question:

11) How well does curriculum and instruction make mathematics authentic for students?

Findings	Recommendations	Action Items
- The following items from the mission statement are relevant to mathematics instruction: <i>Students will:</i> -acquire and apply knowledge connecting curriculum to prior knowledge and real life situations. -engage in inquiry and self-directed learning. -conduct analytical research. -employ critical and creative thinking skills. -examine relationships, integrate knowledge, and apply understanding within and across disciplines. -imagine and generate innovative ideas, solutions, and understandings. -present in oral and written form with clarity, purpose, and understanding. -gather, synthesize, and present knowledge creatively using a variety of media. (VT, FI)	1. The department should review the relevant parts of the mission statement to determine what they mean in the context of mathematics instruction.	→ Include this in the 3-year plan for developing common practices (see Action Plan-page 9)