

CRITERIA FOR THE MATHEMATICS CLASSROOM OF 2007

Below is a set of statements drawn from the *Principles and Standards for School Mathematics* (NCTM), Dr. Karin Wiburg's Criteria for Constructivist Learning Environments, and current literature on math education. Please rate on a scale of 1-5 the extent to which you agree with these statements as well as the level of implementation in your classroom or school.

1= no agreement or no implementation to 5= agree strongly or full implementation

| CRITERIA RELATED TO MATH EDUCATION | Level of Agreement | Level of Implementation |
|---|--------------------|-------------------------|
| 1. Excellence in math ed requires equity-high expectations and strong support for all students. | 1 2 3 4 5 | 1 2 3 4 5 |
| 2. The math curriculum in your school district is well articulated across the grades. | 1 2 3 4 5 | 1 2 3 4 5 |
| 3. The math teachers in your district have a good content knowledge of mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |
| 4. You have a very good understanding of mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |
| 5. Students learn math by actively building new knowledge from experience and prior knowledge. | 1 2 3 4 5 | 1 2 3 4 5 |
| 6. There are frequent opportunities for students in your classroom to use their life experiences in learning math. | 1 2 3 4 5 | 1 2 3 4 5 |
| 7. Students are encouraged to consider more than one perspective in solving math problems. | 1 2 3 4 5 | 1 2 3 4 5 |
| 8. Students are involved in problem-based learning projects using mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |
| 9. Middle school students should formulate questions and design experiments or surveys to collect relevant data. | 1 2 3 4 5 | 1 2 3 4 5 |
| 10. Students spend more time involved in math activities than listening to a teacher. | 1 2 3 4 5 | 1 2 3 4 5 |
| 11. A variety of grouping strategies are used with opportunities for small group collaborative work occurring frequently. | 1 2 3 4 5 | 1 2 3 4 5 |
| 12. Students have opportunities to teach and learn from each other. | 1 2 3 4 5 | 1 2 3 4 5 |
| 13. A variety of assessment tools are used to furnish the teacher information about the students' understanding. | 1 2 3 4 5 | 1 2 3 4 5 |
| 14. Students help determine how they will be assessed. | 1 2 3 4 5 | 1 2 3 4 5 |
| 15. There is enough feedback and assessment during learning that students know how they are doing. | 1 2 3 4 5 | 1 2 3 4 5 |
| 16. Technology supports effective mathematics teaching. | 1 2 3 4 5 | 1 2 3 4 5 |
| 17. Technology enhances mathematics learning. | 1 2 3 4 5 | 1 2 3 4 5 |
| 18. Technology influences what mathematics is taught in your classroom. | 1 2 3 4 5 | 1 2 3 4 5 |
| 19. Technology is used to bring world-wide resources into the classroom and connect the classroom to the world. | 1 2 3 4 5 | 1 2 3 4 5 |
| 20. Learning mathematics with understanding is essential. | 1 2 3 4 5 | 1 2 3 4 5 |

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|--|---------------------------|--------------------------------|
| 21. Students can learn mathematics with understanding. | 1 2 3 4 5 | 1 2 3 4 5 |
| 22. Developing fluency requires a balance and connection between conceptual understanding and computational proficiency. | 1 2 3 4 5 | 1 2 3 4 5 |
| 23. All students should learn algebra. | 1 2 3 4 5 | 1 2 3 4 5 |
| 24. Using mathematical models to represent and understand quantitative relationships is important. | 1 2 3 4 5 | 1 2 3 4 5 |
| 25. Problem solving is an integral part of all mathematics learning. | 1 2 3 4 5 | 1 2 3 4 5 |
| 26. Reflection, writing, and communication are intertwined processes in learning mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |
| 27. Opportunities for students to revise, expand, and update mathematical generalizations are provided. | 1 2 3 4 5 | 1 2 3 4 5 |
| 28. Mathematical reasoning develops in classrooms where students are encouraged to share their own ideas for discussion. | 1 2 3 4 5 | 1 2 3 4 5 |
| 29. Students are given opportunities to understand meanings of the operations and how they relate to one another. | 1 2 3 4 5 | 1 2 3 4 5 |
| 30. Calculators, graphing calculators, or computer graphing software have a place in the mathematics classroom | 1 2 3 4 5 | 1 2 3 4 5 |
| 31. Mistakes are seen as learning opportunities. | 1 2 3 4 5 | 1 2 3 4 5 |
| 32. Teachers have knowledge about how to teach linguistically and culturally diverse students. | 1 2 3 4 5 | 1 2 3 4 5 |
| 33. Well-chosen problems deepen a student's understanding of important mathematical ideas. | 1 2 3 4 5 | 1 2 3 4 5 |
| 34. The mathematics curriculum is taught in relationship to the national and state standards. | 1 2 3 4 5 | 1 2 3 4 5 |
| 35. The school administration supports teacher professional development to expand their teaching strategies. | 1 2 3 4 5 | 1 2 3 4 5 |
| 36. Teachers benefit from talking and sharing ideas. | 1 2 3 4 5 | 1 2 3 4 5 |
| 37. Teachers are given adequate time during the school day and year to collaborate. | 1 2 3 4 5 | 1 2 3 4 5 |
| 38. Improving the quality of teaching will improve the mathematical understanding of the students. | 1 2 3 4 5 | 1 2 3 4 5 |
| 39. Students should be engaged in activities that are related to the practice of doing mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |
| 40. The math curriculum used should offer diverse mathematical challenges. | 1 2 3 4 5 | 1 2 3 4 5 |
| 41. Opportunities are provided for students to communicate using different modalities. | 1 2 3 4 5 | 1 2 3 4 5 |
| 42. Engaging in discussions promotes the value of doing mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |
| 43. Students ask questions as frequently as the teacher. | 1 2 3 4 5 | 1 2 3 4 5 |
| 44. Without connections students must learn too many isolated concepts and skills. | 1 2 3 4 5 | 1 2 3 4 5 |
| 45. Good professional development for teachers is beneficial in implementing a math curriculum that promotes the understanding of mathematics and not merely applying mathematics. | 1 2 3 4 5 | 1 2 3 4 5 |