Course Student Learning Outcomes Assessment

MATH 203 Fundamental Concepts of Elementary Mathematics

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General Information (Course Student Learning Outcomes Assessment)

Standing Requirements

Course Description

Designed for prospective elementary teachers the course emphasizes problem solving techniques and mathematical structure associated with numeration set theory elementary number theory real number system ratio proportion and percent. The course includes instructional delivery design and activity-based explorations.

Course Student Learning Outcomes

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

Outcome	Mapping
Outcome 1 Students will clearly and coherently pose applications and a variety of models for mathematical concepts including operations on number systems from whole numbers to rational numbers.	**Institutional Student Learning Outcomes:** Act 3, Communicate 1, Communicate 2, Communicate 3, Learn 1, Learn 2, Think 1, Think 2
Outcome 2 Students will identify and calmly analyze mathematical problems using higher-order critical thinking skills and then apply appropriate techniques/strategies to problem solving.	**Institutional Student Learning Outcomes:** Act 3, Communicate 1, Communicate 2, Communicate 3, Learn 1, Learn 2, Think 1, Think 2, Think 3
Outcome 3 Students will present topics in elementary mathematics in a clear and accurate manner, demonstrated through oral presentations and in written form and demonstrate through written journals that they will be able to give their own students a positive attitude toward mathematics.	**Institutional Student Learning Outcomes:** Act 1, Act 2, Act 3, Communicate 1, Communicate 2, Communicate 3, Learn 1, Learn 2, Learn 3, Think 1, Think 2, Think 3

2014-2015 Assessment Cycle

Measurements

Outcomes and Measures

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

Outcome 3
Students will present topics in elementary mathematics in a clear and accurate manner, demonstrated through oral presentations and in written form and demonstrate through written journals that they will be able to give their own students a positive attitude toward mathematics.

Measure: Math 203 SLO 3 Spring 2015
Course level; Direct - Other

Description of Measurement Tool: A 50 point rubric for presentations given during the semester.

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as receiving an 43/50 (85%) or above.
Collectively, success is defined as 70% or more of the class being successful.

Cycle of Assessment: This outcome is assessed every two years.

For this report, the data was gathered in Spring 2015, collated, analyzed, reported, and discussed in Fall 2015, with recommendations implemented in Spring 2015.

Who is Responsible for Assessment Activity?: The Math 203 coordinator of record for 2014-2015, Kathy Moore, is responsible for the assessment.

Findings

Finding per Measure

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

Outcome 3
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Who is Responsible for Assessment Activity?: The Math 203 coordinator of record for 2014-2015, Kathy Moore, is responsible for the assessment.

Findings for Math 203 SLO 3 Spring 2015

Summary of Findings: Only 1 section of 203 was offered with 32 students participating in the presentations. All 32 students were assessed (n=32).

There were 22 out of 32 students (69%) who scored 43 or more out of 50 for the presentation and met the criterion.

Results: Criteria for Success Achievement Status: Not Met

Analysis of Findings: We were very close to the benchmark on the presentation.

Recommendations: We will continue to work with students in improving their preparation for the presentations giving a more detailed example of a lesson plan. We will also ensure that teachers spend significant time making clear the importance of clearly presenting in written form as a part of presentations in the course.

This Findings is associated with the following Actions:

Math 203 SLO 3 Action Plan Spring 2015
(Plans of Action; 2014-2015 Assessment Cycle)

Overall Recommendations

No text specified

Plans of Action

Actions

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

Outcome 3

Students will present topics in elementary mathematics in a clear and accurate manner, demonstrated through oral presentations and in written form and demonstrate through written journals that they will be able to give their own students a positive attitude toward mathematics.

Action: Math 203 SLO 3 Action Plan Spring 2015

This Action is associated with the following Findings

Findings for Math 203 SLO 3 Spring 2015
(Measurements and Findings; 2014-2015 Assessment Cycle)

Summary of Findings: Only 1 section of 203 was offered with 32 students participating in the presentations. All 32 students were assessed (n=32).

There were 22 out of 32 students (69%) who scored 43 or more out of 50 for the presentation and met the criterion.

Details of Plan of Action: These results will be sent to all full-time and part-time math faculty, and will be discussed at our department meeting. The following will be addressed:

1) We will continue to work with students in improving their preparation for the presentations giving a more detailed example of a lesson plan.

2) We will also ensure that teachers spend significant time making clear the importance of clearly presenting in written form as a part of presentations in the course.

Plan of Action Timeline: Fall 2015: The Plan of Action will begin during the next scheduled faculty meeting after the assessment. Faculty meetings are once a month during Fall and Spring semesters.

Fall 2015 – Fall 2017: All faculty teaching Math ___ will be given reminders of the SLO results and the suggestions laid out in our Plan of Action at the beginning of each semester in their welcome packet.

Spring 2017: New Data will be collected to reassess this SLO.

Who is responsible for carrying out the Plan of Action?: The Math 203 coordinator(s) of record for 2015-2018 will be responsible for the assessment.

How will you determine if the Plan of Action has been effective?: We will reassess this SLO in three years to determine if this Plan of Action was successful.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: Low

Status Reports

Action Statuses

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

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Students will present topics in elementary mathematics in a clear and accurate manner, demonstrated through oral presentations and in written form and demonstrate through written journals that they will be able to give their own students a positive attitude toward mathematics.

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How will you determine if the Plan of Action has been effective?: We will reassess this SLO in three years to determine if this Plan of Action was successful.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: Low

Status for Math 203 SLO 3 Action Plan Spring 2015

No Status Added

Status Summary

No text specified

Summary of Next Steps

No text specified

2013-2014 Assessment Cycle

Measurements

Outcomes and Measures

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

Outcome 1

Students will clearly and coherently pose applications and a variety of models for mathematical concepts including operations on number systems from whole numbers to rational numbers.

Measure: Math 203 SLO 1
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with three free-response embedded questions pertaining to specific topics for this SLO. The rubric scale is from 0 - 2.
Rubric:
2: Correct model, strategy and clear
1: Incorrect or somewhat unclear
0: blank

Criteria for Success: Individual & Collective Student Criterion: Individually, success is earning a 2 using the 2-point rubric.
Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This outcome will be assessed in the Spring semester every three years.

For this report, the data was gathered in Spring 2014, collated, analyzed, reported, and discussed in Fall 2014, with recommendations implemented in Spring 2015.

Who is Responsible for Assessment Activity?: The Math 203 coordinator of record for 2013-2014, Kathy Moore, is responsible for the assessment.

Outcome 2

Students will identify and calmly analyze mathematical problems using higher-order critical thinking skills and then apply appropriate techniques/strategies to problem solving.

Measure: Math 203 SLO 2
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with three free-response embedded questions pertaining to specific topics for this SLO. The rubric scale is from 0 - 2.
Rubric:
2: Correct model, strategy and clear
1: Incorrect or somewhat unclear
0: blank

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Findings

Finding per Measure

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

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Cycle of Assessment: This outcome will be assessed in the Spring semester every three years.

For this report, the data was gathered in Spring 2014, collated, analyzed, reported, and discussed in Fall 2014, with recommendations implemented in Spring 2015.

Who is Responsible for Assessment Activity?: The Math 203 coordinator of record for 2013-2014, Kathy Moore, is responsible for the assessment.

Findings for Math 203 SLO 1

Summary of Findings: Only one section of 203 was offered, and all students were assessed (N=32).

Overall success rate: 50%

Results: Criteria for Success Achievement Status: Not Met

Analysis of Findings: On two of the questions, more students used no mathematical model at all than those who received a perfect score on the rubric.

On one question, most students used an appropriate strategy, but the majority were unclear or lacking explanations.

Although most of the students were still unclear in their explanations, the 50% was a 48% increase from previous 27%.

We have a problem of clarity of presentation of solution to an unknown problem.

Recommendations: Teaching students to be clear in their explanations of how they attempt to solve a problem is difficult. We need to spend more time on how to write a solution.

Outcome 2

Students will identify and calmly analyze mathematical problems using higher-order critical thinking skills and then apply appropriate techniques/strategies to problem solving.

Measure: Math 203 SLO 2
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with three free-response embedded questions pertaining to specific topics for this SLO. The rubric scale is from 0 - 2.
Rubric:
2: Correct model, strategy and clear
1: Incorrect or somewhat unclear
0: blank

Criteria for Success: Individual & Collective Student Criterion: Individually, success is

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For this report, the data was gathered in Spring 2014, collated, analyzed, reported, and discussed in Fall 2014, with recommendations implemented in Spring 2015.

Who is Responsible for Assessment Activity?: The Math 203 coordinator of record for 2013-2014, Kathy Moore, is responsible for the assessment.

Findings for Math 203 SLO 2

Summary of Findings: Only one section of 203 was offered, and all students were assessed (N=32).

Overall success rate: 50%

Results: Criteria for Success Achievement Status: Not Met

Analysis of Findings: On two of the questions, more students used no mathematical model at all than those who received a perfect score on the rubric.

On one question, most students used an appropriate strategy, but the majority were unclear or lacking explanations.

Although most of the students were still unclear in their explanations, the 50% was a 48% increase from previous 27%.

We have a problem of clarity of presentation of solution to an unknown problem.

Recommendations: Teaching students to be clear in their explanations of how they attempt to solve a problem is difficult. We need to spend more time on how to write a solution.

Overall Recommendations

No text specified

Plans of Action

Actions

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

Outcome

Outcome 1
Students will clearly and coherently pose applications and a variety of models for mathematical concepts including operations on number systems from whole numbers to rational numbers.

Action: Math 203 SLO 1

This Action is associated with the following Findings
No supporting Findings have been linked to this Action.

Details of Plan of Action: These results will be shared with and discussed among current and past Math 203 instructors.

Instructors will be encouraged to stress students writing up the solutions to problems, helping the students to explain the model and problem solving techniques with more accuracy.

We will change the assessment to include the formal written solutions to problems rather than solutions on a test where time is a factor.

Plan of Action Timeline: Instructor changes will be made Spring 2015. We will reassess this SLO

in Spring of 2017.

Who is responsible for carrying out the Plan of Action?: The Math 203 coordinator(s) of record for 2016-2017 will be responsible for the assessment.

How will you determine if the Plan of Action has been effective?: This Plan of Action is considered successful if the overall success rate improves by 5 percentage points or more.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: High

Outcome 2

Students will identify and calmly analyze mathematical problems using higher-order critical thinking skills and then apply appropriate techniques/strategies to problem solving.

Action: Math 203 SLO 2

This Action is associated with the following Findings

No supporting Findings have been linked to this Action.

Details of Plan of Action: These results will be shared with and discussed among current and past Math 203 instructors.

Instructors will be encouraged to stress students writing up the solutions to problems, helping the students to explain the model and problem solving techniques with more accuracy.

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Plan of Action Timeline: Instructor changes will be made Spring 2015. We will reassess this SLO in Spring of 2017.

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How will you determine if the Plan of Action has been effective?: This Plan of Action is considered successful if the overall success rate improves by 5 percentage points or more.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: Medium

Status Reports

Action Statuses

MATH 203 Fundamental Concepts of Elementary Mathematics Outcome Set

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How will you determine if the Plan of Action has been effective?: This Plan of Action is considered successful if the overall success rate improves by 5 percentage points or more.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: High

Status for Math 203 SLO 1

No Status Added

Outcome 2

Students will identify and calmly analyze mathematical problems using higher-order critical thinking skills and then apply appropriate techniques/strategies to problem solving.

Action: Math 203 SLO 2

Details of Plan of Action: These results will be shared with and discussed among current and past Math 203 instructors.

Instructors will be encouraged to stress students writing up the solutions to problems, helping the students to explain the model and problem solving techniques with more accuracy.

We will change the assessment to include the formal written solutions to problems rather than solutions on a test where time is a factor.

Plan of Action Timeline: Instructor changes will be made Spring 2015. We will reassess this SLO in Spring of 2017.

Who is responsible for carrying out the Plan of Action?: The Math 203 coordinator(s) of record for 2016-2017 will be responsible for the assessment.

How will you determine if the Plan of Action has been effective?: This Plan of Action is considered successful if the overall success rate improves by 5 percentage points or more.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: Medium

Status for Math 203 SLO 2

No Status Added

Status Summary

No text specified

Summary of Next Steps

No text specified

2012-2013 Assessment Cycle

- **Measurements**
- **Findings**
- **Plans of Action**
- **Status Reports**