

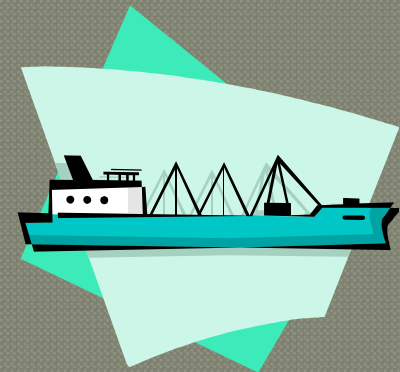
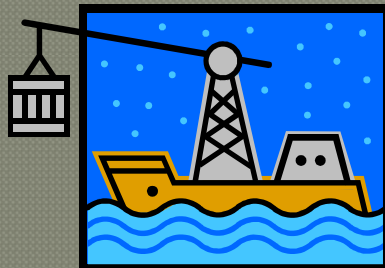
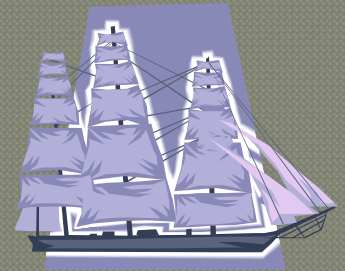
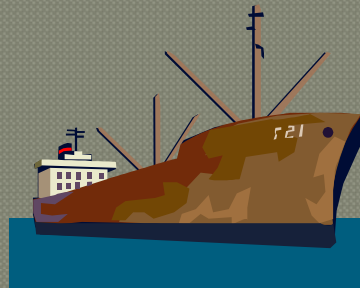
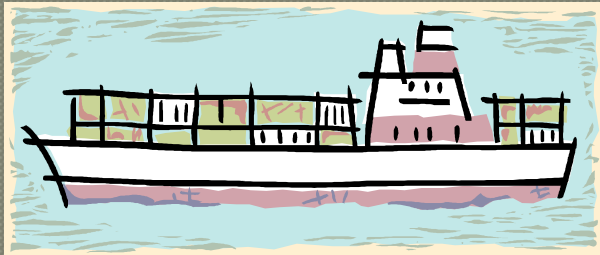
# MARITIME ACADEMIC EDUCATION OUTCOMES

(Three Year Case Study, University of Pennsylvania)

Dr. Arthur H Sulzer EdD

Teaching With Small Boat Alliance (TWSBA) Conference

Mystic Seaport, CT October 15-18, 2013





# Issues

- Why do students choose to enroll and stay enrolled in marine/maritime high schools?
- How does attending a marine/maritime high school affect student outcomes?
- How do marine/maritime high schools address development of student character/personality characteristics?
- What challenges do these schools face in developing their programs?



# School Comparison

Comparisons	Maritime Academy (TMAT) Toledo, OH	Maritime Charter (MACHS) Philadelphia, PA
City Rank (Population)	56 <sup>th</sup>	5 <sup>th</sup>
Poverty Rate (Percentage)	25.8%	39.8%
Family Income (Median)	\$31,780	\$34,400
Crime Rate*	7.3	19.6
Unemployment	24.4%	15.8%
Opened/Years of Operation	2006/6 years	2003/9 years
Middle School	Yes	Yes
Student Funding**	\$7,500	\$8,500
Student Funding (SE)***	\$10,400	\$18,000
CEO/Superintendent	Yes	Yes
Principal	Yes	Yes
Student/Teacher	20/1	15/1



# Student Comparison Toledo and Philadelphia High Schools

Demographic/School	Maritime Academy (TMAT) Toledo, OH	Maritime Charter (MACHS) Philadelphia, PA
<b>Students Grades 9-12</b>	100	271
<b>African American (%)</b>	37.7%	53.3%
<b>Native American (%)</b>	0%	0%
<b>Asian/Pacific (%)</b>	0%	0%
<b>Hispanic (%)</b>	21.5%	19.6%
<b>Multi Race (%)</b>	6.4%	N/A
<b>White (%)</b>	33.9%	25.6%
<b>Economically Disadvantaged*</b>	74.7%	85.0%
<b>Male/Female Student Ratio</b>	54%/46%	52%/48%
<b>Students with Disabilities**</b>	16.6%	11.0%

# Student Character Development

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## ● Maritime Programs Develop

1. Comportment
2. Engagement
3. Concentration
4. Preparedness
5. Confidence

Student development of these  
character/characteristics equals success



# Student Demographics – Toledo, OH

Table 6: *Maritime Academy of Toledo High School and School District Student Demographics*

Student Demographics/Years	2008-2009	2009-2010	2010-2011	District
<b>Student High School Population</b>	69	115	100	22,277
<b>African American</b>	49.3%	45.1%	37.7%	44.6%
<b>Native American</b>	0%	0%	0%	0.1%
<b>Asian/Pacific</b>	0%	0%	0%	0.6%
<b>Hispanic</b>	0%	11.8%	21.5%	8.8%
<b>Multi Race*</b>	10.2%	8.5%	6.4%	5.9%
<b>White</b>	32.9%	34.1%	33.9%	40.0%
<b>Economically Disadvantaged**</b>	89.1%	58.5%	74.7%	76.6%
<b>Students with Disabilities***</b>	18.6%	15.9%	16.6%	15.8%

# Toledo High Schools Demographic Comparison

Demographic/Schools	Waite High School	Life Skills Academy	Maritime Academy	District
School Population	1,019	213	224*	22,277
African American	26.5%	71.3%	37.7%	44.6%
Native American	0%	0%	0%	0.1%
Asian/Pacific	0%	0%	0%	0.6%
Hispanic	17.4%	7.6%	21.5%	8.8%
Multi Race**	3.7%	5.8%	6.4%	5.9%
White	51.8%	14.8%	33.9%	40.0%
Economically Disadvantaged***	81.4%	92.3%	74.7%	76.6%
Students with Disabilities****	14.8%	25.1%	16.6%	15.8%

# Student Attitude Change

Table 9: *Student Attitude Change at Maritime Academy About School*  
(% Agreeing to Change/%Agreeing to Positive Change) (Toledo, Ohio) (2011)

Respondent	Change	Positive
Student	71%	100%
Parent	75%	100%
Teacher	83%	83%
Staff	80%	70%



# Student Completion of Studies and Graduation Maritime Studies Influence

Note: Maritime Studies was not available to 11 th and 12 th grade at time of study

Source: TMAP Focus Group Survey Data 2011

Student Grade/Response	Yes*	No	No Opinion
Grade 9	100%	0%	0%
Grade 10	50%	25%	25%
Grade 11	0%	25%	75%
Grade 12	0%	67%	33%
Average (Grades 9-12)	25%	25%	50%
Parents	50%	0%	50%
Teachers	50%	43%	7%
Staff	40%	20%	40%

# High School AYP Comparison

*Toledo High School Yearly Progress (AYP) Comparison (Toledo, Ohio) (2008-2011)*

Note: CS is for Charter School and PS is for Public School

School/Year	2008-2009	2009-2010	2010-2011
Maritime Academy (CS)*	Not Met	Met	Not Met
Life Skills Center of Toledo (CS)	Not Met	Not Met	Not Met
Waite High School (PS)	Not Met	Not Met	Not Met



# Academic Subject Proficiency

*Percentage of Students Testing Proficient or Above on Ohio Graduation Test (OGT)*  
(Toledo, Ohio) (2008-2011)

2008-2009

2009-2010

Subject/School	Maritime Academy (CS)	Life Skills Center (CS)	Waite High School (PS)
Reading	84.0%	56.0%	68.4%
Mathematics	68.0%	41.7%	70.2%
Writing	96.0%	66.7%	79.8%
Science	60.0%	47.8%	54.4%
Social Studies	84.0%	52.0%	70.2%
Overall	78.4%	54.8%	68.6%

# State Graduation Test Results

*2010-2011*

*Note:* The Ohio Graduation Test is required to be taken by all 10<sup>th</sup> and or 11<sup>th</sup> grade students as a graduation requirement.

CS is for charter school and PS for public school.

Source: 2008-2011 Individual School Report Year Card Ohio Department of Education

Subject/School	Maritime Academy (CS)	Life Skills Center (CS)	Waite High School (PS)
Reading	82.8%	63.2%	76.6%
Mathematics	55.2%	42.9%	66.3%
Writing	79.3%	68.4%	83.2%
Science	62.1%	26.3%	58.6%
Social Studies	86.2%	50.0%	65.4%
Overall	73.1%	50.2%	70.0%



# Graduation Rate

Table 14: *Percentage of Students Graduating High School in Four Years at Selected Toledo High Schools (Toledo, Ohio) (2008-2011)*

*Note:* CS is for charter school and PS for public school.

Source: Annual School Report Cards Ohio Department of Education, 2008-2011.

School/Year	2008-2009	2009-2010	2010-2011
Maritime Academy (CS)	N/A	93%	96%
Life Skills Center (CS)	7.8%	7.8%	5.6%
Waite High School (PS)	80.4%	77.4%	73.3%
District Average	86.7%	83.7%	80.5%
State Average	84.6%	83.0%	84.3%

# Student Career Interest

Table 15: *Education and Career Dialogue Students and Adults at Maritime Academy (% Response and Career Interest) (Toledo, Ohio) (2011)*

Question: Have you talked to your parents or do your children/students talk to you more about a career since attending Maritime? Yes or No.

If yes, what careers do they discuss?

Source: TMAT Focus Group Survey Data, 2011.

Group/Response	Yes	No	Most Commonly Mentioned Student Career Interest
Students	71%	29%	Marine Biologist, Marine Engineer, Pharmacist
Parents	75%	25%	Military, USCG, Merchant Marine
Teachers	86%	14%	USCG, Nurse, Merchant Marine
Staff	70%	30%	Firefighter, Military, Marine Science



# Student Maritime Program Interest

Table 18: *Program Interest School Enrollment VS Maritime Career Technical Program Enrollment (Total Students)/Maritime Program Enrollment TMAT (Toledo, Ohio) (2011)*

*Note:* After the initial course in 2008 a new course was added to higher grades as students were promoted; 2012 was the first school year the elective marine/maritime program was in full operation.

Source: TMAT State Annual Report 2011.

Grade/Year	2008-2009	2009-2010	2010-2011	2011-2012
9 <sup>th</sup> Grade	(31)/31	(37)/37	(42)/42	(48)/48
10 <sup>th</sup> Grade	0	(32)/16	(39)/13	(49)/20
11 <sup>th</sup> Grade	0	0	(34)/11	(32)/9
12 <sup>th</sup> Grade	0	0	0	(28)/6

# Student Post Secondary Interest

Table 19: *Post High-School Graduation Career/Education Choices Maritime Academy (% Level of Interest) (Toledo, Ohio) (2011)*

*Note:* Only 9<sup>th</sup>-grade students showed interest in the maritime apprentice programs.

Source: TMAF Focus Group Survey Data 2011

Choice/Respondent	Students	Parents	Teachers	Staff
Go to Work	13%	25%	43%	40%
Community College	6%	0%	50%	20%
Maritime Apprentice	19%*	25%	7%	0%
College (4 year)	52%	0%	0%	40%
Maritime College (2/4 Year)	0%	25%	0%	0%
Military	8%	25%	0%	0%



# Student High School Behavior Comparison

Table 23: *School Discipline Issues High School Comparison (Incidences per 100 students) (Toledo, Ohio) (2008-2011)*

2008-2009

Schools/Incident Types	All Types Discipline	Expulsions	Suspensions	Other Types Discipline
Maritime Academy (CS)	17.0	0	17.0	0
Life Skills Academy (CS)	N/A	N/A	N/A	N/A
Waite High School (PS)	124.2	2.7	40.1	81.3

# School State Performance Comparison

Table 26: *Ohio School Performance Index (SPI) (Scale 0-120 points) (Toledo, Ohio) (2008-2011)*

Source: Annual School Year Report Cards Ohio Department of Education 2008-2010.

School Index/Year	2008-2009	2009-2010	2010-2011
Maritime Academy	66.9	82.4	78.3
Life Skills Center	78.3	71.0	72.5
Waite High School	91.2	83.6	86.9



# School State Improvement Rating Comparison

Table 27: *Ohio School Improvement Index (SII) (Toledo, Ohio) (2008-2010)*

Source; Annual School Year Report Card, Ohio Department of Education, 2008-2010.

School/Year	2008-2009	2009-2010	2010-2011
Maritime Academy (CS)	At Risk	Okay	At Risk
Life Skills Center (CS)	At Risk	At Risk	At Risk
Waite High School (PS)	At Risk	At Risk	At Risk

# State School Overall Performance Indicators

Table 28: *Ohio State Indicators Met (SIM) (Met/Total) Designation (Toledo, Ohio) (2008-2011)*

Source: Annual School Year Report Cards, Ohio Department of Education, 2008-2010

School/Year	2008-2009	2009-2010	2010-2011
<b>Maritime Academy (CS)</b>	(3/13) Academic Emergency	(6/18) Continuous Improvement	(6/21) Academic Watch
<b>Life Skills Center (CS)</b>	(1/12) Continuous Improvement	(0/7) Academic Watch	(4/12) Academic Watch
<b>Waite High School (PS)</b>	(6/12) Effective	(2/12) Continuous Improvement	(4/12) Continuous Improvement



## Specific Recommendations for a Successful Program

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1. Program commitment by School Board
2. Planned program implementation
3. Marine/Maritime student interest needs to be developed early and sustained
4. Maritime internships with outside partners greatly assist the process
5. Maritime teacher professional educator training is crucial to that teacher's success

# Copy of Research Available

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- Title: MARITIME TACTILE EDUCATION FOR URBAN SECONDARY EDUCATION STUDENTS (UMI # 3535037)
- By: Arthur Henry Sulzer IV
- A copy of this dissertation is available through:  
Pro Quest LLC  
789 East Eisenhower Parkway PO Box 1346  
Ann Arbor, MI 48106-1346