



University of New Haven



Math Zone Spring 2022 Report

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June 2022

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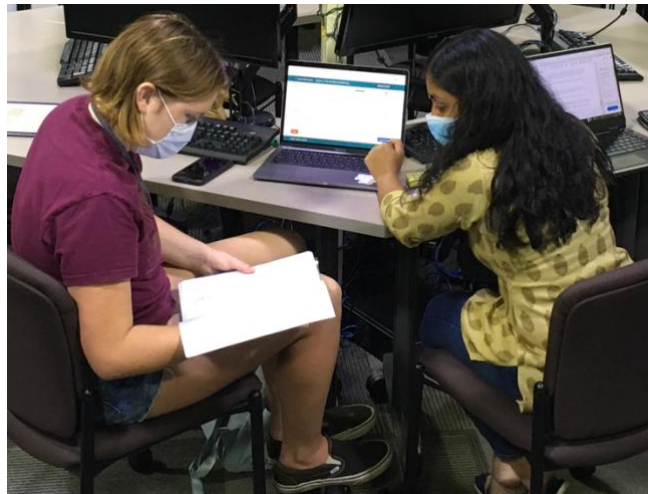
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How We Attract Students

One benefit of the computer lab being co-located with most Math Zone lectures in North Hall is the ease with which the tutoring staff can personally invite students to stay after class to get support. In addition, the Math Zone holds at least one event per semester to help students build connections with the staff and increase tutoring utilization. Events held include rock painting (Fall 2022), Pi Day Festival (Spring 2022) and “Minute to Win It” (Spring 2022) with games and prizes.



Rock Painting Event, October 2021



One-on-one support

Student Walk-in Data

In total, 8634 minutes or approximately **144 hours of walk-in services** were utilized. While most of this time represents students enrolled in one of the four Math Zone courses, a small percentage was used for the Pi Day event (2 hours), post placement (17.4 hours) or learning assistant assessments (12.25 hours). Figure 1 below illustrates the most popular times of day for walk-in tutoring. According to the data, **11 am, 12 pm, and 4 pm are the most in-demand**. Examining such data allows us to plan for next year’s services. Note, however, that this also depends on class schedules and thus might fluctuate greatly between semesters and academic years.

Figure 1: Math Zone’s Walk-In Tutoring by Time of Day

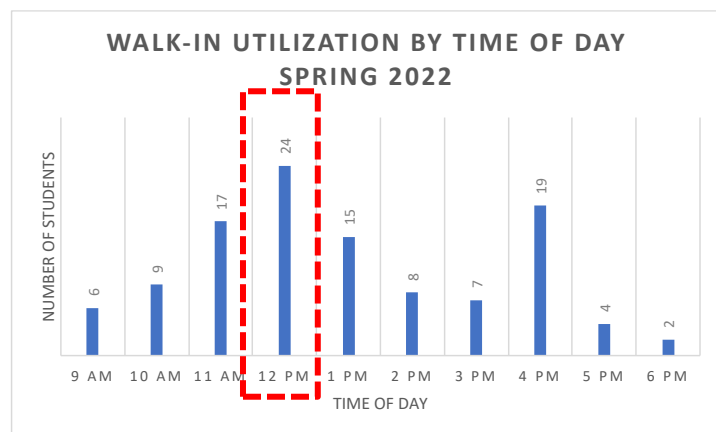
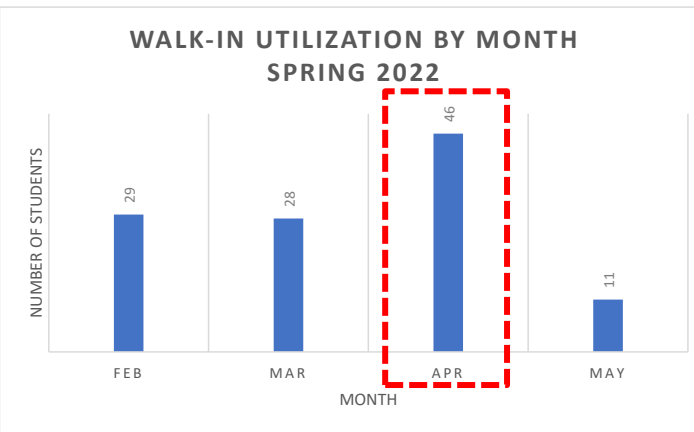


Figure 2: Math Zone Walk-Ins by Month

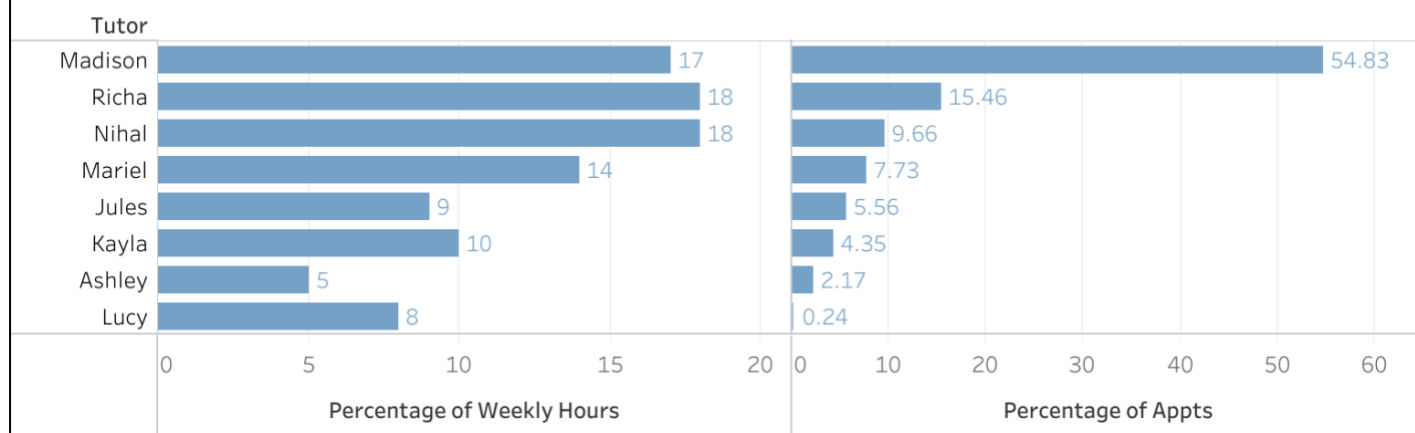


Student Appointment Data

1. Overview

- There were **63 unique students** making appointments in Spring 2022, making an **average of 6.57 appointments per person**.
- The **average appointment time was 36 minutes**.
- The **number of appointments varied greatly by tutor**. See observations below for more insight.

Percentage of Appointments by Tutor



Observations:

- 54.83% of appointments were made with Madison, although her weekly hours represented only 17% of the total hours available.
- Some of the variability is due to the number of weekly hour worked. In addition, two of the tutors began working in the Math Zone later in the semester.

2. Representation by Course: most appointments were made by students in Pre-calculus, followed closely by College Math. The fewest appointments were for College Algebra students

Course	Number of Sections	Percentage of Total Sections	Percentage of Total Appointments
MATH-1107	4	22%	20.68%
MATH-1108	7	39%	37.47%
MATH-1110	3	17%	0.73%
MATH-1115	4	22%	41.12%

Observations:

- College Algebra (1110) students under-utilized tutoring services. Although there were three sections of this course, less than 1% of appointments were made by students in this group.
- College Math (1107 & 1108) students used Math Zone services in proportion to their percentage of total sections (as might be expected).
- Pre-calculus (1115) students were over-represented and used Math Zone services more than students in any other course.

3. Appointment by Type and by Mode: most students preferred to schedule their appointments in advance and most preferred in person appointments to Zoom.

Figure 3: Appointment by type

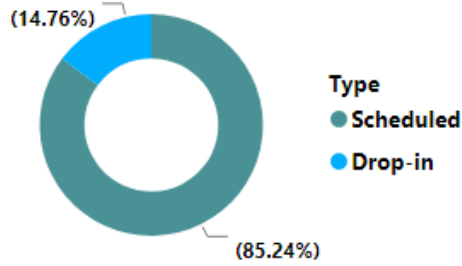
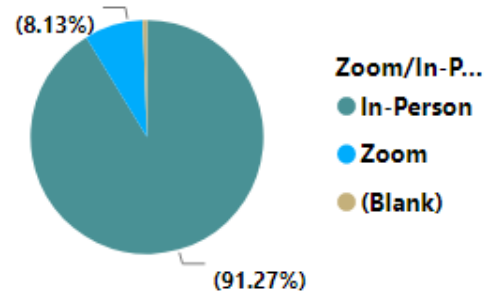


Figure 4: Appointment by mode



4. Appointment Frequency by Time of Day and Month: students preferred afternoon appointments with 2 PM being the most popular time for bookings. In addition, April was the most popular month for making tutoring appointments.

Figure 5: Number of appointments by time of day

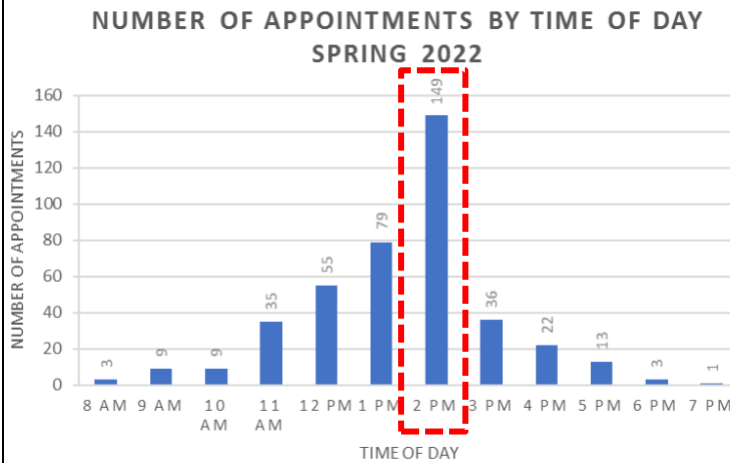
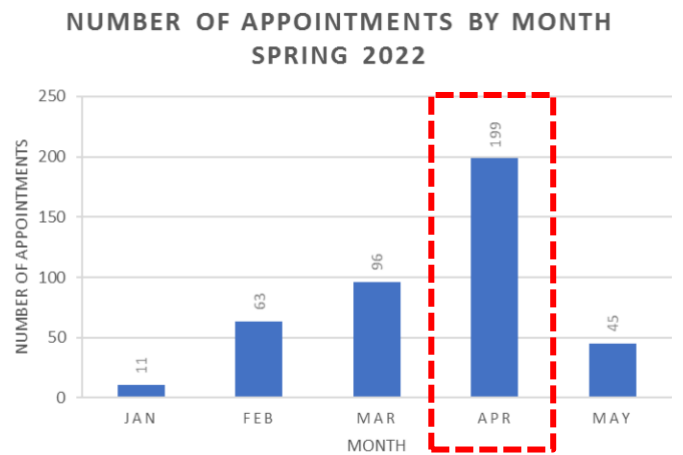
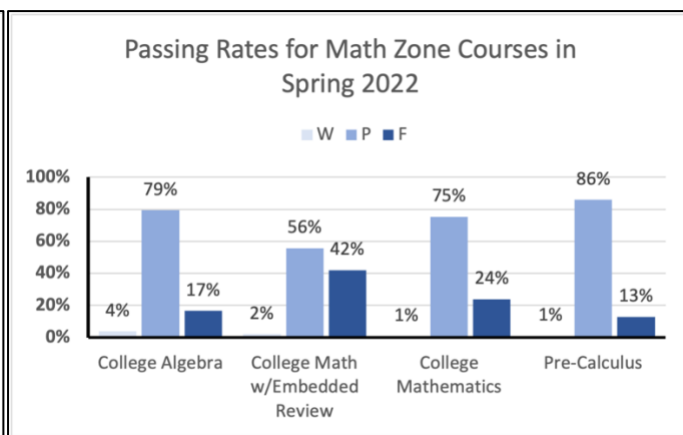
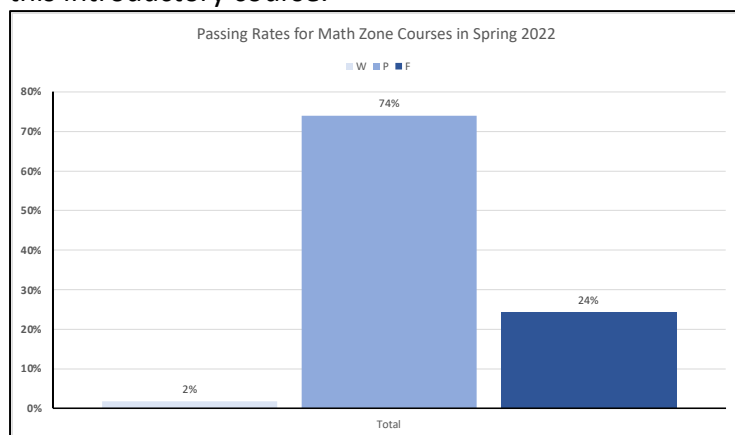


Figure 6: Number of appointments by month



Final Grade Data Spring 2022

Overall passing rates were high across Math Zone courses except for Math 1107 known as College Math with Embedded Review. It is unclear why this class had lower passing rates than the others. Two possible reasons may be the amount of work required in the class as well the possible under preparation of students taking this introductory course.



A grade of **“P”** was defined as a C or higher, though for some students a passing grade of D is sufficient to move on in their programs of study.

For students enrolled in MATH 1108 or 1115 who also attended tutoring, passing rates were higher than in the chart above, 78% and 93 % respectively. Unfortunately, passing rates were lower in MATH 1107. Only three students from MATH 1110 utilized services and of these three, only two were tutored so we cannot report on their progress compared to the larger non-tutored sample. *It is important to note that some of the drop-in students were taking exams, not getting tutoring support, so this may skew the data.*

Passing Rates for Students who attended <u>at least one</u> tutoring appointment			
Row Labels	Number of Students	Number of	
		F	P
MATH-1107	96	90.63%	9.38%
MATH-1108	156	21.79%	78.21%
MATH-1110	4	25.00%	75.00%
MATH-1115	204	6.86%	93.14%
Overall		29.57%	70.43%

Measuring Tutoring Satisfaction

Four students completed a post tutoring survey in the spring 2022 semester. Of the four, 3 rated their experience as “excellent” and one as “very good.” Below you will find other comments on what students found helpful and offer recommendations to improve the tutoring experience.

What did you find most helpful about your appointment?	What can we do to improve the Math Zone Tutoring experience?
THAT I ACTUALLY LEARN SOMETHING!!!	Make it longer than 30 minutes
I was given a tutor without requesting one	All excellent

Madison and I worked on the material we have been covering in Math 1108-07 and worked through the practice problems in Hawkes. She also assisted me if I had a question during my certify. She is **very patient** and **always willing to help** with any material I need assistance with.

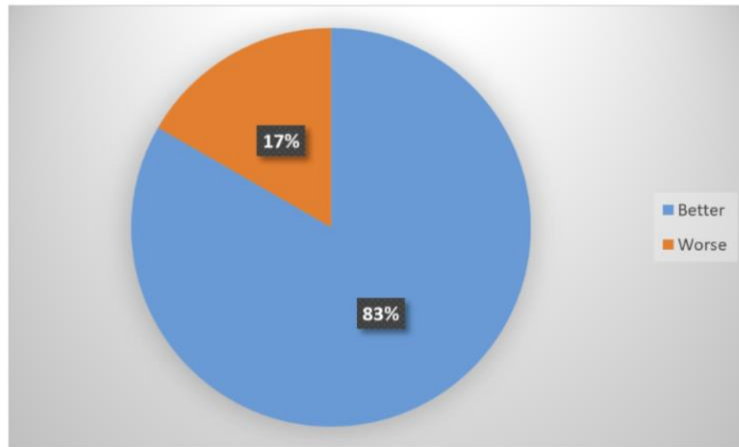
There is **not much** I would change overall! I would maybe suggest that students have a **one-on-one** session with their tutor / learning assistant, rather than having one big open session with several students at a time.

The tutors were **helpful** with answering my questions on the formulas / equations I was working on. They **also showed me how to plot data for a scatter plot graph.**

Nothing that I can think of right now, all is great!

Measuring Impact

In comparing test 1 to test 2 performance for the 24 students who attended tutoring early in the spring semester, we found that 83% of this group scored higher on their second test, after having attended tutoring.



Tutor Self Evaluation

In addition to in-person and Zoom synchronous training, (e.g., Myatt center training on social identity), tutors are enrolled in a Canvas course for the purpose of training and community building beyond the in-person experience. One of the requirements is for tutors to complete a self-evaluation as an opportunity to reflect, celebrate achievements, consider improvements, and to confer with the Math Zone Director for feedback. (Note: responses were edited for brevity).

What went well?	What could have been better?	What do you think you should have been trained to do that you were not trained on this year?	If you are continuing as a learning assistant in 2022-2023, what are you looking forward to? Otherwise, what will you miss the most?
In my opinion, this semester was a really fun semester to work in the math zone.... I had numerous regulars who came to my tutoring hours on a daily or weekly basis... the events we hosted went	Since I did have so many regulars, it was hard to take any extra walk-ins or proctor testing, since many times I was by myself and was tutoring at least 3-6 students.	I do think we should get training on what to do when we catch someone cheating on a test. I have not experienced this yet, and I have a general idea of what I would have to do,	Next semester, I am really excited to communicate with the new students and encourage students to get tutoring when they need the help.

<p>very well. Including the rock painting days and the minute to win it game day.</p> <p>In the classes, I also think that the students were more inclined to ask me questions when I walked around, which was really nice.</p>		<p>however, I do not know in great detail</p>	
<p>Beginning the semester, I was extremely nervous on starting out as a tutor for college kids because I believed that it was very strict and somehow believed that people were misunderstanding; but I stand corrected and I got to tutor a few kids and they seem to appreciate my visual ways of describing things.</p>	<p>My time management skills potentially, as some inconvenient things occurs and I lose my patience and get distracted</p>	<p>I have no idea.</p>	<p>Starting out in the fall semester, almost as a fresh start. and this time I will not be as terrified</p>
<p>I enjoyed making the connections I did with students, peers, and faculty whether those connections were made in passing or not.</p>	<p>Having a bit more confidence in what I was doing and what I was talking about would have made tutoring better from my perspective.</p>	<p>I was never trained on how to do appointments over zoom. I'm not sure if there were things that I should have done or tools that I could have used besides the whiteboard/screen annotations that would have helped. I was also never trained on what to do if you catch someone cheating, though that was also figured out.</p>	<p>I'm looking forward to making more connections with students and helping them navigate their math class.</p>
<p>Using my Math experience and knowledge, it was a great experience for me to teach students and I also learn many things from the Prof and students as well. From profs. I learned how to handle a large number of groups of students during exams.</p>	<p>For improvement, I observed that students came to learn only during exam time, instead of that if the students started learning from day one I would be better, for that we have to make them more aware about MATH ZONE. We have to do more Math activities during orientation so students get familiar with us and math activities should be</p>	<p><i>Not answered</i></p>	<p>As I am not continuing for next term, I will miss the environment of Math Zone, all the prof, and my regular students</p>

	organized on the main campus.		
Overall, I think students generally enjoyed working with me . I've always had that feeling, and perhaps I'm wrong (if more people filled out satisfaction surveys we would know for sure), but I try and be patient with students and help explain any complications as best as possible . It helped to have been a fellow student, haha.	I think one thing that would have been beneficial to make clear is how the Math Zone can offer tutoring services to students. Other than that, a lot of my experience this semester was defined by inactivity because of the hours I was working. I either worked the early shift before classes started or on a day with no classes where demand was incredibly low (save for a handful of regulars).	I know this bleeds a little into the last question's answer, but figuring out how exactly to work with students through Zoom last semester was a bit cumbersome; it might have been nice to learn more ahead of time.	Definitely the people working here. I think some great people worked at Math Zone, and it's a shame that I might not see a lot of them again. Heck, I missed some of the people who were there when I first started at Math Zone
... impact that I had on students. I feel that most likely many tutors feel this same way, but seeing that the same students who I met with early on in the academic year come back to me time and time again for tutoring makes me feel as though what I am doing is really resonating with them and works. It is always a rewarding experience to see a student come back and tell me that they did well on an exam or that they tried the homework on their own and succeeded. I am grateful for the understanding of my fellow staff members and supervisor as the entirety of this year has been incredibly difficult for me personally.	I believe that my consistency in regards to administrative tasks has ample room for improvement. I thought that the struggle with attendance for the spring semester contributed to a lacking awareness of a workplace environment for me personally.	I believe that all tutors would benefit from in-person rather than online training so that activities can be practiced first-hand and also encourage participation in discussions. Training on topics of: students struggling mentally, emergency scenarios (similar to the unidentified man who entered the facility during hours that occurred mid-semester), working with athletes or older students or even those who may have a IEP of some sort.	I look forward to implementing the changes I plan to make for myself and meeting the new tutors we have on staff for the upcoming year.

Why Come for Tutoring? (A Video)

In the Spring 2022 semester, we asked a few students who attended tutoring to tell us why they came. Using the footage, I created the video found [here](#). Please note this video is unlisted and not yet publicly shared.

Looking Ahead

- Investigate reasons for low passing rates in Math 1107, including for those attending tutoring. Consider implementing **study groups** to address this discrepancy.
- Regarding **tutor training**, we have an existing **collaboration** with the CLR. We may also collaborate with CAPS, Myatt, Accessibility Resource Center, and the Office of Residential Life on modules like *Recognizing and Helping Students in Distress* and *Universal Design for Learning – Tutor Edition*
- We plan to offer additional **workshops** at the beginning of the term to **introduce students to tutors**. This would serve to motivate students to attend tutoring in their free time.
- Continue expanding the Canvas training course for all learning assistants. We hope to partner with CAPS to add more training resources for **dealing with students in distress**.
- In our **spring midterm survey**, we will ask students **why they do not take advantage of office hours**.
- Work on **increasing the number of responses to the post-tutoring survey**. We have already made a QR code for the form and placed it around the lab as well as in tutor name tags to make form completion easier. This did not generate more responses. What worked best was having tutors ask students to complete it by reminding them via Navigate. Another approach that worked was sending reminders on Fridays to student to complete it. We noticed additional responses on those Fridays and the weekend that followed.
- Data from the post tutoring survey combined with utilization data – which showed demand by week, day, and hour – will help us adjust our schedule for the spring semester to **optimize usage**.