

the alliance

always aligned with clients in mind

08.2016
Volume ONE
Issue SEVEN

The Power Of **STEAM** Education

Look Inside
Our STEAM Camp Tour

- FIVE Days
- SEVEN Locations
- FORTY Campers

UNLIMITED
POSSIBILITIES



STRANG
From Best Practices
To Next Practices



WHY HELLO THERE Welcome Back To This Special Issue Of The **alliance**

Within this firm, we honor a strategic list of guiding principles to advance our counsel and keep our aim true. By no coincidence, two such tenets share overlapping traits and, when combined, generated a wondrous course of action.

First, we are future-focused, evaluating and aligning today's projects with ever-advancing technologies, materials and sustainable design practices. Next, our community engagement places a priority on supporting youth within the Greater Capital Region.

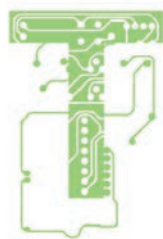
When combined, these two guideposts proved to be the genesis behind STEAM Camp - our "Aha moment," if you will. After all, what could be more future-focused than our area's kids?



What Is STEAM?

STEAM is an acronym for the fields of study in the categories of **Science**, **Technology**, **Engineering**, **Arts** and **Mathematics**.

BUILDING UP AHEAD OF



STRANG



INSIDE

The **alliance** eZine

Volume ONE
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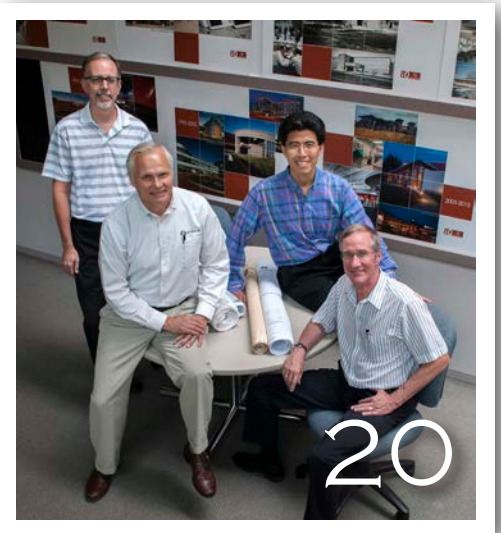


PROGRAM PARTNERS

6. Three Dane County non-profit organizations gave their support to STEAM Camp. Hear what their leaders had to say.

SCHEDULE & STOPS

10. This was a mobile program, with campers visiting a new location each day. Find out where they went and what they did there.



THE STEAM EXPERIENCE

20. We sat down with Strang leadership to ask about the STEAM Camp, what it meant to the community and the kids.



InBusiness Magazine readers named Strang the top commercial architectural firm in Madison for the third consecutive year.



Strang's STEAM Camp: >> (1) Where bright kids learn about **educational pathways** towards careers in

Science, Technology, Engineering, Arts and Math.

>> (2) Where these same kids become inaugural members of **Madison's Young Leaders** (MYL) in their pursuit of lifelong learning.



This truly unique program was a tremendous collaboration between private industry, higher education, non-profit organizations and countless volunteers - all of whom genuinely care about our community's youth.

Learning activities were hands-on, connected and fun. Our goal was to provide a safe and interactive environment, learn new skills and begin to understand the **educational pathways** behind STEAM careers. Creativity, resourcefulness and imagination were cornerstones to our program.

In total, 40 youth attended our STEAM Camp with the vast majority of those campers coming from within the Urban League of Greater Madison, Girl Scouts of Wisconsin Badgerland and Big Brothers Big Sisters of Dane County.

“Technology
is a team
sport”

“No, pizza
itself is not
part of the
food pyramid”

*“What’s for lunch? It’s
not healthy stuff, is it?”*

“Your Future Can Be Really
Amazing”



“Yes! I beat
my older
sister into
college.
Booom.”

“The Worst Enemy
Of Creativity Is
Self-Doubt. You
Are Way Smarter
Than You Think.
You Can Do This.
We’re Right Here
To Help.”

Oh, The Things You Can Think Up If You Only Try”

Dr. Seuss

Please consider joining Strang in support of Girl Scouts



Help her
find her
SPARK.



VOLUNTEER NOW

gsbadgerland.org

girl scouts 

care for our campers begins here

with a little help  from our friends

these program partners made
team STEAM 2016 a real success



Dr. Ruben Anthony
President & CEO

"I am very optimistic and encouraged by the young men and women of color aspiring to be become scientists, medical practitioners, information technology leaders and more."



Marci Henderson
CEO

"We are pleased to team up with local businesses and youth organizations to create more opportunities for our girls to gain hands-on access to STEAM careers while providing fun with purpose!"



Sandy Morales
CEO

"STEAM Camp gives our youth insight to career fields they might not have considered on their own and can continue exploring with their Big Brother or Sister after the camp ends."



**Urban League of
Greater Madison**

girl scouts 
of wisconsin
badgerland


Big Brothers Big Sisters
of Dane County





Each student attending STEAM Camp was presented with a framed Certificate of Success, like this sample, and welcomed into the ranks of MYL - Madison's Young Leaders in our community.

Please consider joining Strang in support of The Urban League of Greater Madison



Make A Difference!

**HUNDREDS OF
AREA STUDENTS
ARE AWAITING
YOUR HELP!**

- Math & literacy tutors needed
- Flexible times
- Just 1 hour per week
- Locations in Madison, Sun Prairie, & Oregon
- Free training provided

Get involved! Contact us at volunteer@ulgm.org or (608) 729-1226



we are
mobile



here ■ there ■ everywhere



tour schedule & stops

Oh What Fun It Is To Ride On A Big, Bright Yellow Bus

- July 18, Discovery Building
- July 19, Madison College
- July 20, Electronic Theatre Controls
- July 21, Overture Center for the Arts
- July 22, UW Babcock Hall & Dairy Cattle Center

“

INTELLIGENCE

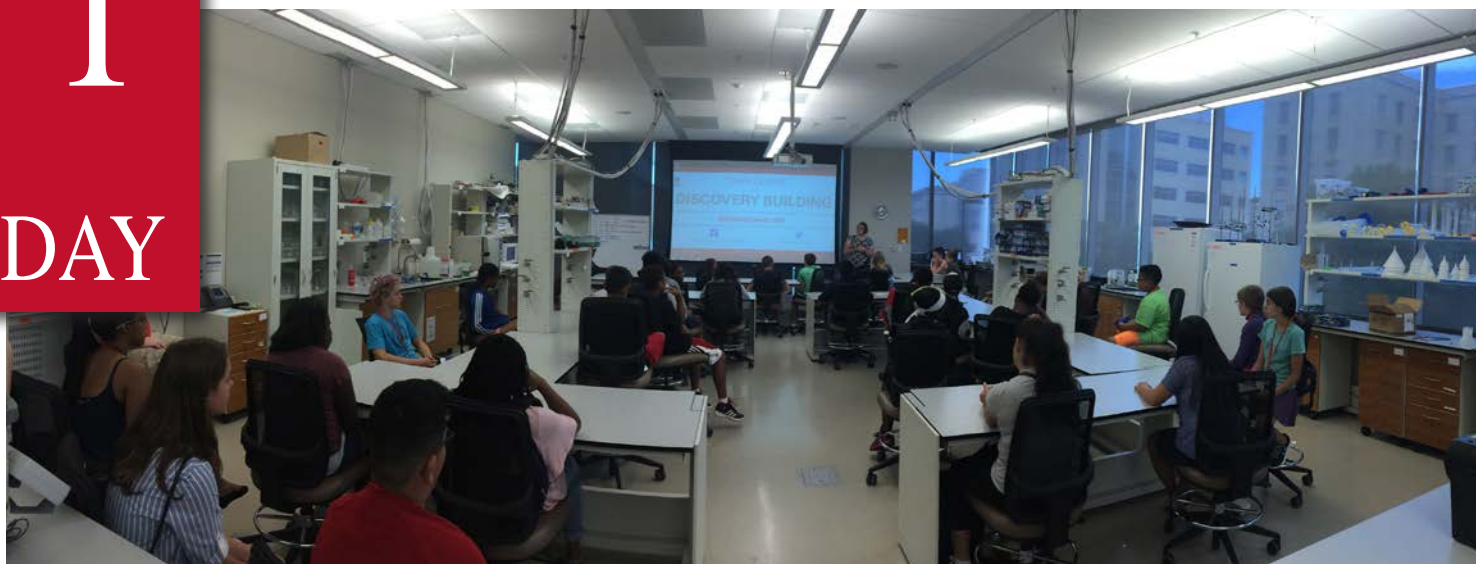
will take you from A to B

imagination will take you anywhere

-Albert Einstein



1 DAY



DISCOVER SCIENCE

OUR FIRST DAY OF STEAM
CAMP FINDS US AT THE
AMAZING **DISCOVERY BUILDING**
ON THE UW-MADISON CAMPUS

Wisconsin
Institute *for*
Discovery
AT THE UNIVERSITY OF WISCONSIN-MADISON

The first day of STEAM Camp began with a message to the kids: There are a lot of people volunteering to help you this week who haven't even met you yet, but they already care about you. Imagine how much they'll care once they get to know you. "You guys are important."

The camp wasn't about science-on-display with fancy chemistry experiments resulting in colored smoke. Rather, it was designed to highlight the career possibilities in

the various STEAM disciplines and help the kids understand the **educational pathways** to those careers.

It started at the Discovery Building with a basic lesson in science.

The campers were given a sealed cardboard box with marbles, buttons and other trinkets. Using their hands and eyes as their only tools, they were asked to look through a small window in the box



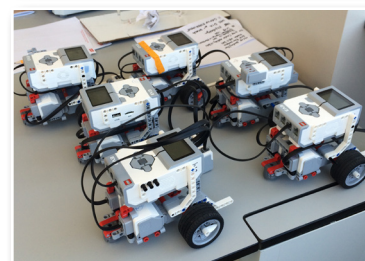
and figure out what was inside. It was the simplest of lessons in research: finding the unknown.

They went on to design computer programs for small robots with wheels. Each robot was programmed to react to a specific color. When they placed the



robot on a colored mat, the robots spun around according to the programming sequence.

By the end of the day, most of the campers had experienced things they never knew about science. But the week was just beginning. The next day would offer opportunities in technology.



2
DAY

DISCOVER TECHNOLOGY

ON OUR SECOND DAY OF STEAM
CAMP WE BECOME COLLEGIANS
DURING A VISIT TO **MADISON COLLEGE**



Smiles flashed across three dozen faces as Madison College President Dr. Jack Daniels III told the middle school STEAM Campers, “you are now officially college students.”

It was one of many highlights during Technology Day at Madison College’s Truax campus.

Campers saw the wide variety of technology subjects, from engines to amoebas. They changed a tire on an 18-wheeler and jumped into the cab of big trucks and tractors. Then they switched gears from diesel

technology to design technology and learned about advanced manufacturing equipment.

In the afternoon, students donned white lab coats as Biotechnology Instructor Dr. Oana Martin, PhD, showed them how a disease outbreak can be tracked. They shared and mixed contents of test tubes with one another to see how rapidly disease can spread. Then, in a very



squishy experiment, they learned how to separate the DNA from strawberries. The day finished with a program hosted by

Dr. Gashwin Saleno, a faculty member in the Madison College Electrical Engineering Technology program. He started them out working with tinker toys to learn a basic

lesson in engineering: It is about getting all the details before you build. With that in mind, students proceeded to assemble a circuit board of a simple music box and custom-programmed robotic cars to spin about on the floor. Not bad for their first day at college.





3
DAY



DISCOVER ENGINEERING

OUR THIRD DAY OF STEAM CAMP FINDS
US AT **ELECTRONIC THEATRE CONTROLS**
IN MIDDLETON, WHERE WE LEARN
ABOUT THEATER LIGHTING

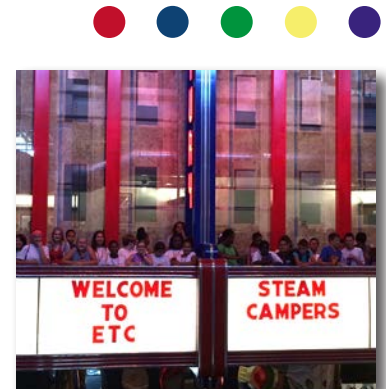


Campers spent the day at Electronic Theatre Controls in Middleton. But within those walls they also got a glimpse of a famous painting from the Chicago Art Institute, a live view from ETC's Manhattan office building, and theatre rigging used in venues across the world.

During a tour of ETC, students walked through an area themed as an urban Main Street movie set with a reception area designed like Edward Hopper's 1942 painting "Nighthawks," one of the best-known images of 20th century art.



properties of lighting, demonstrated with m&m candies under colored lights. Campers used felt markers to create personalized gobo light filters and then viewed them with projectors in a



They also watched via video conference, as an ETC staff member showed students the live view from her downtown New York City office. Campers learned about about engineering and

architecture from Strang Vice Presidents Bruce Kimball and Peter Tan. Then Peter lead a hands-on demonstration on perspective drawing. ETC volunteers then taught the kids the



darkened room. The students also enjoyed sitting in front of computers and learning how to control theatre lighting.

4

DAY



DISCOVER ARTS

**DURING OUR FOURTH DAY OF
STEAM CAMP, WE VISIT THE
OVERTURE CENTER FOR THE ARTS
AND SPEND THE DAY WRITING,
ACTING AND DANCING**



Certainly the students weren't expecting this kind of programming in a camp that had previously featured technology, engineering and science. But poetry writing, dancing, and even improv acting were all part of the program on the fourth day of STEAM Camp at the Overture Center in downtown Madison.

Program instructors explained it was important to show the connecting overlap between arts and sciences. Learning to write and make



presentations to peers is an important skill for science and technology professionals.

Campers spent the morning learning comedy improv and movement with Dane Arts Director Mark Fraire. Then artist, and Madison's Third Poet Laureate, Fabu Carter worked with the kids on poetry writing and reading. Inspired



by Carter's gentle encouragement, the young writers stood up and read their poems in front of the group.

In the afternoon, two members of UW-Madison's First Wave Hip Hop and Urban Art Program



inspired kids to write about themselves and support each other's efforts. Finally, Personal Trainer and Movement Specialist Lacour Yancey, got the kids up and moving in a poly movement program. He said the physical program was a perfect fit for a STEAM Camp because it mixed arts with math and physics.



Why Include Arts?

Training in the arts has been shown to improve creativity and innovation. Students learn to approach issues with a critical mind and a positive attitude towards problem solving.

• e-Learning Infographics

**5**
DAY

DISCOVER MATH

**WE BEGIN OUR LAST DAY OF
STEAM CAMP WITH ICE CREAM
AT **BABCOCK HALL** AND FINISH
DRESSED IN SNOW SUITS AT
THE DISCOVERY BUILDING**



The last day of STEAM Camp started with ice cream – yes, before lunch! And it ended with a trip to the South Pole. “Frozen Friday” was fitting on one of the hottest days of the summer.

Campers started out at the University of Wisconsin – Madison’s Babcock Hall. There they learned about the dairy industry and experienced the unique aroma of a cattle barn on a sweltering day.

A short bus ride took the kids to the Wisconsin Institute for Discovery.



actual red parkas, gloves and boots worn at the South Pole.

All in all, a pretty cool way to spend a hot summer day.



The afternoon program was hosted by the Wisconsin IceCube Particle Astrophysics Center. The group showed campers a short film about their South Pole Research Center, and then led them in some hands-on activities.

They learned about the basics of particle

physics in a fun drill where they were each given a label which represented a positive or negative charge. Then the kids competed in a relay race to see which team could create the deepest hole in a block of ice using a dropper filled with hot water. They also donned the



They gathered in a private room overlooking the lobby for lunch. Students were then given ***Certificates of Success*** which recognized their accomplishments and pronounced them “Madison’s Young Leaders.”



Q

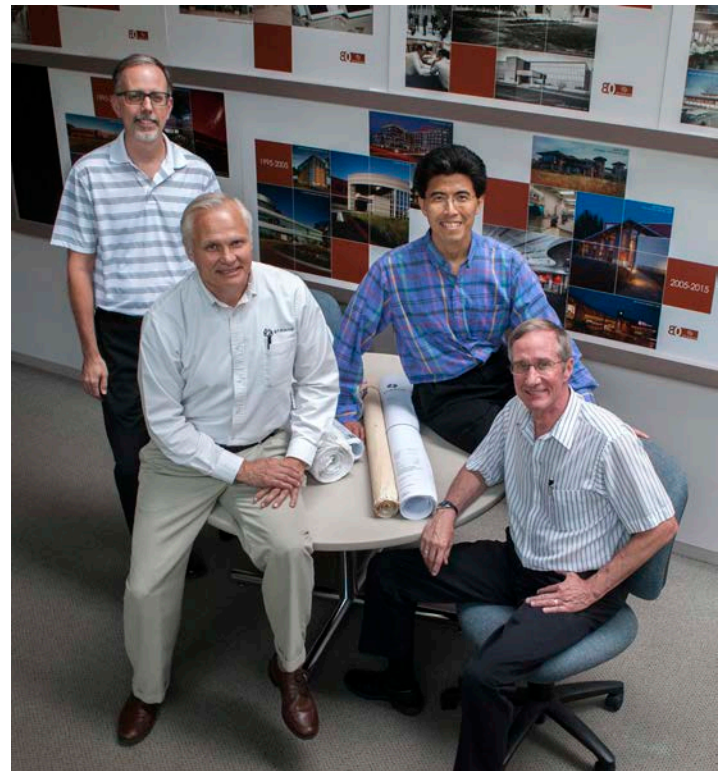
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STRANG LEADERSHIP SHARES

The STEAM Camp Experience

We Sat Down With Strang's
Four Principals To Discuss The
Development Of The STEAM Camp
And What It Means To The Kids And
The Community.

*Strang's leadership team, from left to right: Wayne
Whiting, Larry Barton, Peter Tan and Bruce Kimball.*



Q: What message does STEAM Camp convey to these children?

LARRY: There's a range of exciting career opportunities for them as they continue in school. We want to expose them to some of these exciting professions.

WAYNE: Until I went to high school, I didn't know anything about architecture. But one class completely changed my outlook of what I wanted to do. This camp might provide that sort of spark for one of the kids.

PETER: This conveys to them that school is relevant. They see real-life people with real-life jobs – this is what they can become.

Q: STEAM focuses on five different disciplines – Science, Technology, Engineering, Arts and Math. What does it teach the kids about these subjects?

BRUCE: It teaches them they're all inter-related. There's a huge interweaving going on between the disciplines.

PETER: It shows them these subjects are not

practiced in isolation. Our world is an interdisciplinary place. It broadens the perspective of their world view.

LARRY: It's intended to make kids aware of the classes they will need to take in high school if they are to pursue careers in these disciplines.

Q: So many people from the community donated their time and resources to make this camp possible. Is there a message there for these children?



WAYNE: The message is about caring. People do care that the kids have an opportunity to succeed.

PETER: The example was set by the many people who volunteered to make this happen. These kids will see that's what

makes a community great. You need to have the heart of a servant in your work.

Q: Why focus on middle school kids? Why not first-graders or high school students?

LARRY: Earlier in school, they really work on core fundamentals like reading and writing.



WAYNE: Arts pulls from all four other areas for its own success. A painter must understand the technology of colors. Body movement in dancing is a form of physics. So there is a lot of overlap.

BRUCE: Anyone who studied music knows it's mathematically based. We see art forms and a need for creative artist aspects all the time at Strang.

Q: *What does it say about our community when organizations work together on a program like this for children?*

PETER: The community spirit that exists in the Madison area is outstanding. Think about how many people were willing to say 'I'm in' when they were asked to participate in STEAM Camp. It

Middle school is where you apply those basic subjects. If you wait until high school to decide you want to become an engineer, it might be too late if you haven't gotten on the right track for mathematics, for example.

WAYNE: We need to catch them early enough so they have something to drive toward once they enter high school and have the time to do it.

Q: *Many similar programs are called STEM and leave out the A. Why include the Arts?*

LARRY: The arts component is critical. Lacking the creative, artistic side becomes the impediment to success in these careers. STEM is only half-brain learning.



shows they understand we are all in this together.

BRUCE: It says we're very concerned about our youth and we want them to get involved in areas that are both productive and fulfilling.



Q: Does STEAM Camp really teach kids math, science, technology, engineering and arts?

BRUCE: We wanted to give them that spark that says, ‘that’s cool, that’s interesting! I want to learn more about that!’

WAYNE: It may be a hint of what they could get into. It may catch their attention. That’s the goal.

LARRY: It teaches them about careers. And, if they are interested, it teaches them there are certain courses they may want to pay more attention to.



Q: What did you like about how the program tackled different aspects of a particular discipline in different ways?

PETER: Kids are tactile learners. They learn more effectively by active learning.

LARRY: We learned kids were much more engaged when it involved touching and feeling. That also generated camaraderie and memorable experiences.

BRUCE: The fact that these disciplines are all intertwined really shows. The camp makes it clear that all these subjects overlap and come together in some way. It also shows how obtainable they are – it’s not scary. All of you can do it.

Q: Any other thoughts?

WAYNE: It was a wide variety, a taste of everything. They were able to try the variety and find out what they liked the most.

PETER: My hope is that this Camp reorients their minds as to who their heroes are and what they want to be when they grow up. Their heroes can be engineers, artists and scientists – not just sports stars.

BRUCE: It was important for kids to become part of the Camp, part of their own group. They felt included in the special group that was our inaugural STEAM Camp group.

LARRY: This is a great example of the concept of a village raising kids. The business community, non-profit organizations, the educational community, we all raise kids together and ultimately it creates a great place to live.



Pictured above: Big Brother Mark Richardson and Little Brother Jamani.



Big Brothers Big Sisters
of Dane County

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Be a BIG or Give BIG
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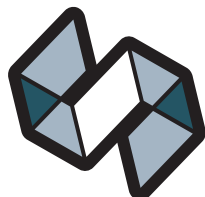
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To Next Practices*