



The Roger Lehecka Double Discovery Center

Getting community youth to, through, and beyond college

What is a Lionfish?

- A lionfish (also known as Pterois volitans) are native to the Indo-Pacific region.
- Lionfishes are part of the Scorpionfishes species.
- They have redish/brownish and white stripes all over their body and have about 18 venomous spines.
- They have don't natural predators and eat small fishes, crabs, and shrimps.
- Large reproduction rate.



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2020 Summer Programming - Grand Finale!

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Summer Institute: Writing Intensive

I started a career in investment banking, then decided to switch to education and I never looked back! says Elissa D'Elia, NYC Educator and Instructor for the *Writing Intensive* component of DDC's Summer Institute. *I wanted to lead this writing class because it is so important for students to communicate effectively in both academic and real world settings,* she adds.

Writing skills are essential in college, the work place, and everyday life but many students do not even reach proficiency level. Only 28% of students nationwide write on or above grade level. DDC students report struggling with the mechanics of writing – developing a strong thesis, building an outline and using correct paragraphing and sentence structure.

To address this critical need, DDC included a focus on writing in its 2020 summer program. *This class adds layers to the writing classes at students' schools*, says Elissa. *In college, students have to do a tremendous number of research papers*, she explains. *They need to know how to conduct research, incorporate other people's ideas, and develop the thread for their argument. In addition, they must clearly explain each step of their reasoning so that readers can follow easily.*

The *Writing Intensive* covered two main types of writing: rhetorical/argument and narrative. *I show students how to use specific strategies that are best suited to each type of writing*, says Elissa. With rhetorical writing, students practiced setting up the argument, analyzing the evidence, and tightening their reasoning. In narrative writing, they developed a theme using a specific memory or moment in their lives and used dialogue, description and other “show don't tell” strategies to engage readers.

I make the mechanics of writing real and engaging by linking them to great authors and current issues relevant to students' lives, says Elissa. The class wrote argument essays for the NYS Police Reform and Reinvention Collaborative, for example. Their narrative essays tackled “double consciousness,” a term coined by W. E. B. Du Bois in his book *The Souls of Black Folk* to illustrate how oppressed groups in a society shape both how they perceive themselves and how other groups perceive them. *I was surprised by the students' level of engagement with all the topics*, comments Elissa.

Elissa uses collaborative learning to encourage students' engagement with their own writing process and with one another. By working together and reviewing each other's writing, students build an effective support system to develop their skills. *It is through those conversations that we all become better writers*, says Elissa.

Summer Academy: The Art of Debate

Debate teaches active listening, critical thinking, analytical thinking, and research and advocacy skills – essential skills for college and career readiness. *Debate heavily influences the political, legal, social science, and educational fabric that undergirds our society*, says Chiara Fuller, DDC Instructor for *Exploring the Art of Debate* and English Education doctoral student at Teachers College, Columbia University.

The class covered the three types of debate: policy, parliamentary and public forum. It concluded with two debate projects. One was a debate tournament that provided students with hands-on experience for each debate style; and the other was a 5-minute speech on a current sociopolitical topic selected by the student. The speech was evaluated for format, persuasion (research/evidence), creativity, and engagement skills.



[Video](#): *Click above to visit the debate class and see some of the activities that helped students organize their ideas and arguments and become comfortable with public speaking!*

Throughout the class, students practiced mapping their arguments, refuting claims, asking critical questions, presenting cited evidence, and listening actively to polish their responses. They also learned how to improve the delivery of their message by exploring different ways to recognize, define, and share emotions and nonverbal communication. *It's all about learning how to best use your persuasive voice when telling authentic stories*, Chiara explains.

I believe in privileging the students' voices, says Chiara. The class emphasizes dialogue and problem-solving in order to foster inquiry, reflection, creativity, and ultimately, intellectual growth. *I incorporate students' interests, curiosities, and realities into every lesson and class assignment*, Chiara adds. *I use dynamic and engaging practices, such as music, theater, poetry, and social media to promote transformative learning.*

I also encourage students to expand their critical consciousness as they address multiple aspects of global issues such as social justice and racial discrimination, says Chiara. *This knowledge can help them define their own identities, influence their career choices and strengthen their relationships with people from different backgrounds.*

DDC students really impressed me, they were brilliant! says Chiara. *They talked about what kind of world they wanted to see and how they could be agents of change. They did not shy away from difficult conversations and they asked such thoughtful questions!*

Summer Academy: Engineering Big Ideas

This DDC class is very different from the engineering courses students get in their schools, says Olivia Newkirk, M.S. in Bioengineering, Clemson University, and DDC Instructor for *Engineering Big Ideas*. *We focus on the engineering process, the methodology engineers use to uncover, tackle and solve problems in the field. This is not about memorizing formulas but rather learning to be critical thinkers in the inquiry process that includes identifying a problem, researching it and developing the best solutions.*

Students selected the problem they wanted to address: an inconvenience in their everyday life or a big-picture issue they were passionate about. They used their observations and experiences as they moved through the steps of the engineering process – from defining the problem to reviewing real-world constraints to brainstorming solutions – and finally developed the prototype of their best solution. As they went through the process, they learned to challenge the status quo with evidence, they practiced analytical and problem-solving skills to better understand the issue at hand, and they worked collaboratively to create and test viable solutions.

This approach to STEM education shows students that they are not helpless and that they can address a problem by bringing practical solutions to reality for the benefit of many, says Olivia. *People do not systematically look for problems to solve, this is not a common attitude. This class is entirely based on students' ability to assess the world around them and seize the challenges to make a positive difference. They go from passively memorizing formulas to taking responsibility for their own learning.*

Students' projects addressed a variety of local challenges. Kimberly A. and Melody D. focused on immigration. Kamila A. worked on living conditions in low income housing, Nia C. examined gentrification and Sandra C. addressed leaky air conditioners. Other students turned to global problems such as pollution, climate change and the control of invasive species. Aparajita B. suggested genetic modification to reduce growing population rates of the predatory and destructive lionfish from the Indo-Pacific region that is now multiplying in Florida, Yorlandy E. and Genesys V. proposed ingenious solutions to reduce plastic pollution in the ocean, Paola B. dealt with lead contamination in some school water fountains,

Christopher A. researched climate change and Yorlan E. explored measures to reduce air pollution.

This was my first DDC class, says Olivia. I was incredibly impressed by how much students wanted to be active in their community and build a better world. They confronted massive problems that you would not expect young students to even be aware of: climate change, pollution, institutional racism. They gave me a lot of hope for the future!

Partner with us to offer the gift of education! To help fund our programs and expand our outreach, click here: “[Change a Life](#)”

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