

MARK NOONE, AMY THOMPSON, AIDAN MOONEY



# THE REDEVELOPMENT OF THE MAYNOOTH UNIVERSITY COMPUTER SCIENCE CENTRE



## RESEARCH AIMS

"Support Centres" are a form of intervention, through which students interact with one or more tutors who help them with their studies. The Computer Science Centre at Maynooth University is a support centre which has been in operation for 9 years. Our model involves the hiring of volunteer, undergraduate tutors who support first and second year students as they progress through their programming modules. Students can avail of advice and help.

Recently, two academic tutors were hired full time to help redevelop this support centre. The overall goal of this redevelopment was to increase the usage rate of the centre by students, to reduce drop-out rates and increase student success. Furthermore, we wanted to encourage more institutions to open and manage this key form of support for their students.

The paper this poster is based on was published in Volume 13 of AISHE-J in 2021 (Noone, Thompson, & Mooney, 2021).

## OUTCOMES

A major redevelopment plan was decided on in 2019, in order to update the service to a stronger and peer-focused approach. The following items were part of this redevelopment:

- Rebranding to "Computer Science Centre" from "Programming Support Centre"
- Increasing number of opening hours from 8 to 15
- Finding a permanent location for the year
- Increasing module coverage to more second year modules
- Improving volunteer tutor training to focus more on "how" to tutor
- Introduction a student induction session to show them the room and what we do
- Introduction of a weekly competition question to engage advanced students
- Inclusion of other additional activities such as RoboCode and hardware rental schemes
- "Cheat Sheets" were to be created for threshold concepts and available in the room
- Concurrent tutorials were to be made a key part of our programming module
- Emails would be sent to students telling them their grade, encouraging CSC attendance

## IMPACT OF THE REDEVELOPMENT

The redevelopment of our support centre has had a major impact on our students. Students who attend the centre are performing better on their examinations. If you take a look at **Figure 1**, you will see that the students have very favorable opinions; Almost all students find the centre an inviting space that helped them advance their CS knowledge, and which offers friendly welcoming faces. We utilise volunteer undergraduate students as tutors for this very reason. It creates a bit of separation from the staff, and allows for peer learning to occur.

Students also show an increase in their confidence by the end of their first year. This is particularly evident in students who have gotten involved in our extra activities such as competition questions. Often these students come back as tutors, keeping the cycle going.

We aspire to also have a national impact by publishing works such as this paper and poster. We have heard from at least one institution who are now formulating their own support centre using our research as a basis.

## ONGOING WORK

Now that the redevelopment has been completed, our main goal is to keep the centre successful and to keep supporting our students to the best of our ability.

Outside of this, we are currently working on some additional initiatives:

- We have founded a national group for support centres owners
- We have organised an annual workshop for all those interested in CS support (The first event ran in March 2021)
- We are currently working on a national perspective paper with multiple other CS support staff

## DATA

During the 2018-2019 academic year, before the redevelopment, the CSC saw 51 students and 122 visits. After the redevelopment this increased to 180 students and 967 visits, increases of 253% and 699% respectively.

Furthermore, we were able to show that students who attended the CSC more than once in a semester achieved statistically significantly higher grades on their end of semester exam (56.26% mean versus 50.4% mean,  $p < 0.05$ ). This data can also be seen in **Figure 2**.

## RELATED GRAPHS

8. How much would you agree with the following statements?

[More Details](#)

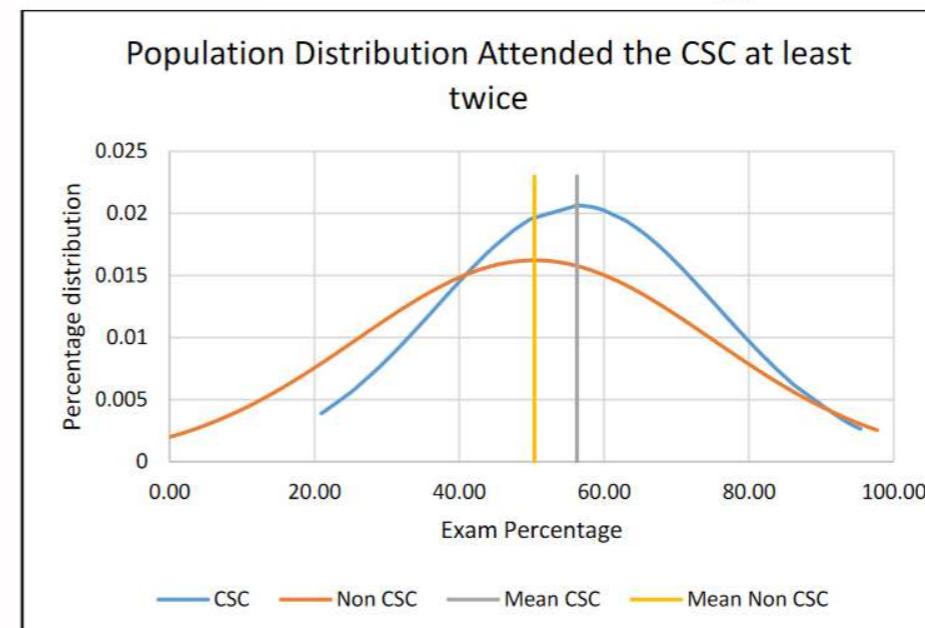
Strongly Disagree Disagree Neutral Agree Strongly agree

The CSC is an inviting learning space

The tutors are always friendly and supportive

I feel the CSC has helped me advance my knowledge in Computer Science

**Figure 1**



**Figure 2**

## REFERENCES

Noone, M., Thompson, A., & Mooney, A. (2021). An Overview of the Redevelopment of a Computer Science Support Centre and the Associated Pedagogy Impacts. All Ireland Journal of Higher Education, 13(2). <https://ojs.aishe.org/index.php/aishe-j/article/view/527>