

Community of Practice • Facilitator's guide

Grassroots professional learning for educators



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This guide is designed to explain how to organise a community of practice to support teachers' professional learning.

Although it is drawn from experience in doing this for Computer Science, this guide may suit any subject.



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Background



The Computers in Education Society of Ireland (**CESI**) was established in 1973 for those interested in the potential of technology to enhance the teaching and learning experience for all involved in education. It is also the official subject association for teachers of Computer Science, as recognised by the Teacher Professional Networks (**TPN**). In 2017, CESI established a new project, CESI•CS, to form a Community of Practice of educators interested in developments in Computer Science.

CESI maintains a vibrant mailing list for online 24/7 professional support and offers a national conference in early March each year.

In 2017, CESI welcomed the announcement of the intended introduction of Computer Science as a Leaving Certificate Subject. CESI members are also involved in the Junior Cycle Short Course in Coding, others are developing Computational Thinking at Primary level and there is representation from 3rd level too. Following an application to Google's Grassroots CS Grant, CESI established a new project, CESI•CS, to form a Community of Practice of educators interested in Computer Science. Funding from Google supported the CESI•CS project for two years until August 2019. Face-to-face meetings in local education centres aimed to establish relationships and share experience with educators at all levels. To build the project, CESI has collaborated with Education Support Centres Ireland (**ESCI**), formerly the Association of Teacher / Education Centres of Ireland (ATECI), and **Teacher Professional Networks**. Read more at <http://cesi.ie/cesi-cs>

When is it a community of practice (CoP)?

It is a community of practice when a network of people collaborate to share a common professional context.

It is marked by the use of specialist language, similar activities, shared concerns and common expertise.

For it to thrive, good peer-to-peer relationships built on respect and trust must be made, although there is room for dialogue and debate about effective practice.

Meetings are not courses, although professional learning will usually take place. There is usually no price associated with activities, since participants are typically the providers of knowledge and evaluation to each other.

“Great to meet other teachers passionate about the subject and willing to share their experiences.”



What does it take to organise a CoP?

“Need learning intentions shared at the beginning so you know exactly what was going to be covered.”

The aim is to support teachers locally through relevant meetings (and online) to network, learn and share with others involved in teaching computer science and computational thinking.

The meetings need facilitation - two organisers collaborating is recommended.

Objectives include:

1. Organising viable face-to-face meetings.
2. Trying to meet on a termly basis, since regular meetings help maintain relationships.
3. Posting at least two monthly contributions to the online forum from CESI•CS members in the region.
4. Finding two volunteer participants collaborating as local facilitators.



Where and when can you meet?

Education Support Centres (ESCs) generally welcome communities of practice and offer excellent facilities. Start by contacting the centre director before arranging meetings. You need to explain your commitment and agree how to collaborate. You can find their contact details at [ESCI](#).

Education Support Centres can offer a meeting place, but at times it may be more practical to meet at a participant's institution. You should still work together with the ESC director to sustain the community of practice.

It is best to arrange CESI•CS meetings for a 6pm or 7pm start to allow educators from all levels of education to attend.

You will almost certainly need WIFI access and should encourage participants to bring their own devices. You will benefit from sharing a big screen with all participants.

“It might be better to negotiate a time with local teachers to suit circumstances.”



Why should participants attend?

“It would be great to create this type of network of support locally.”



These meetings will give participants a chance to address personal needs and find other educators to network with. They provide an opportunity to discuss issues relating to the development and practice of computing in education across levels. Participants bring expertise and experience as well as gaining from others.

For the initial meetings, the facilitator should suggest activities (see next page) that all will benefit from and enjoy, and prepare icebreakers and simple starting projects (see pages 12 and 13). This means recognising a range of experience in the room - some may have plenty of know-how, others will have taught no computing at all.

A good starting point is building participants' confidence in computing, rather than their teaching plans, although that may become the main focus as the community develops.

As participants become more confident, it is good to invite them to bring their own ideas for activities from a wider range.

Which activities?

MAKING

artefacts driven by
micro-controllers

EXPLORING

data structures
or queries

IMPROVING

knowledge of a new
programming
language

SHARING

assessment techniques
both formative
and summative

DISCUSSING

student misconceptions
about a particular
curriculum topic

DESIGNING

a lesson & evaluate its
effectiveness by joining
a lesson study group

EVALUATING

resources to contribute
to or curate the
CompSci database

Face-to-face meeting style

Recognising the value of individual experience and educators networking as equals, the style proposed is based on the idea of an **unconference** using **Open Space Technology** and as exemplified by **Edcamp**.

This means inviting participants to propose and agree their own agenda and trusting them.

The facilitator's job is to "hold a space" for participants to self-organize, rather than managing or directing the conversations.

Stage	Activity
Networking & Scheduling	Set the tone, connect people and collaboratively establish a detailed schedule for breakouts based on individual interest.
Exploring & Learning	The heart of the meeting, forming breakout sessions to focus. Not lectures, but collaborative workshop activities and discussions with a focus on producing outcomes that are valuable to each participant. Possible topics include: particular learning stage, curriculum area, practice, technology, content knowledge and interactions with other stages and areas.
Sharing & Reflecting	The whole group shares experiences from the breakout sessions and from participants' teaching practices. Reflect on the whole meeting and discuss future opportunities.

Online tools to use



Google Forms

Use the CESI•CS Google Form for your regional group to gather data from potential participants. Facilitators can find the template form on the Google drive. You will need to edit the dates offered in the form to suit and then use the spreadsheet of form results to monitor attendance.



Social media and the CESI•CS mailing list

Encourage participants to announce meetings and share insights using social media. Post questions arising in meetings in the [CESI•CS list](#) to tap in to the knowledge base of the national community.



CESI•CS web pages

Summaries of activity reported through social media can be made on the CESI•CS web pages and participants should be encouraged to contribute articles to the CESI Digiteach blog. cesi.ie/cesi-cs

COMPSCI.IE

Encourage participants to add resources to the [Compsci.ie](#) portal, where they can also browse and search for Computer Science resources. It is a collaboration between Scoilnet, The Department of Education & Skills (Inspectorate) and PDST Computer Science. Any teacher registered with the [Teaching Council](#) can [register for a Scoilnet Account](#) and add resources.

COMPSCI.IE

Step-by-step what to do

In advance

1. Get in touch with cs@cesi.ie and offer your wish to become a CESI•CS facilitator
2. Find another educator willing to work with you
3. Contact the Education Support Centre director in your region and explain your commitment
4. With your co-facilitator find a convenient date and agree some activities
5. Publicise the first meeting through the Education Support Centre and CESI email lists, direct contacts and increasingly, by emailing previous participants
6. Promote the meeting on social media and CESI email lists

On the night

7. Arrive early and prepare the space - if possible around table(s)
8. Facilitate introductions, networking and welcome
9. Facilitate discussion of current issues in participants' practice
10. Facilitate identification of common themes and get started
11. Invite sharing and reflect on learning
12. Wrap up - look for commitment to next meeting

Afterwards

13. Update CESI•CS online spreadsheet for attendance
14. Report the event using social media and the CESI mailing lists

Unplugged ice-breaker - Sorting

This ice-breaker is suitable for a first meeting. It gets participants talking to each other - revealing personal information about where they live and finding common ground.

At the same time, it provides the basis for a discussion about algorithms, logic and the parts of a computer.



1. Set out chairs in a row for all participants.
2. Invite participants to talk to their neighbour and move so that the whole group is seated in order, based on the distance the meeting is from their home.
3. Once done, now invite one participant to become leader.
4. Tell the leader to sort the group into order by the second letter of their first name.
5. Other participants move as directed, and are silent except to respond with their name when asked by the leader.

Issues to discuss about **notional machine**

1. The chairs are memory, the participants are data.
2. The first sort is in parallel, the second is sequential and may be algorithmic - the leader acts as central processing unit.

Plugged activity - micro:bit thermometer

1. In small groups, use **Makecode** and the built-in **micro:bit** thermometer to measure the temperature.
2. Display the measurement on the display.
3. Use the wireless to send the temperature to another micro:bit - ask another group to receive and display it on their micro:bit.
4. Place the first micro:bit outside the window or in a fridge - test how far away it can go and still work, or what materials block the wireless signal.

Issues to discuss regarding this activity

1. How accurate is the thermometer and how would you calibrate it?
2. The activity demands collaboration and planning within and between groups.



```

forever
  show number temperature (°C)
  
```



```

on start
  radio set group 1
  
```

Group 1 -
sending the
temperature



```

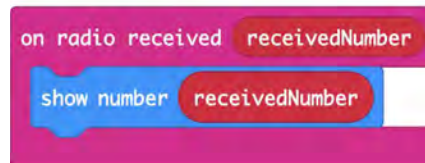
forever
  radio send number temperature (°C)
  
```



```

on start
  radio set group 1
  
```

Group 2 -
receiving the
temperature



```

on radio received receivedNumber
  show number receivedNumber
  
```



cesi

Computers in Education Society of Ireland
Cumann Ríomh-Oideachais na hÉireann



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E.S.C.I



Ionaid Tacaíochta Oideachais na hÉireann

Education Support Centres Ireland