Record of Observation or Review of Teaching Practice

Session/artefact to be observed/reviewed: Week 4 lecture for the BSc unit Digital Systems
Size of student group: 36
Observer: Ignacia Ruiz
Observee: Jasper Shuoyang Zheng

Note: This record is solely for exchanging developmental feedback between colleagues. Its reflective aspect informs PgCert and Fellowship assessment, but it is not an official evaluation of teaching and is not intended for other internal or legal applications such as probation or disciplinary action.

Part One

Observee to complete in brief and send to observer prior to the observation or review:

What is the context of this session/artefact within the curriculum?

- **Methods 2: Digital Systems** is a Year 1 unit in BSc Computer Science and BSc Data Science and AI. The unit is led by my colleague Dr Kayalvizhi Jayavel, who commissioned me to give two guest lectures on digital image processing and linear algebra. I will be delivering the sessions on the 10th and 17th of March. Each session will last about 3 hours, with 2 hours of lecture and 1 hour of class activities.

How long have you been working with this group and in what capacity?

- This is my first point of contact with most of the students. About 10 students from the BSc Data Science and AI course already met me when they were in one of the units that I taught last term. I'm new to other students from BSc Computer Science.

What are the intended or expected learning outcomes?

- Taken from the unit brief:
  - The second part investigates the process of digitising and treating reality as sets of numbers. It introduces techniques of linear algebra as ways of dealing with large datasets, such as digital images, and how they can be manipulated using software packages. Inherent in all this abstraction are codified power relations that need to be unpacked to begin understanding the effects of computing on all groups in our larger, interconnected world.
- I'll be covering the LO2 and LO3 of the unit:
  - **LO2**: Identify and apply basic concepts of linear algebra such as vectors and matrixes (Knowledge)
  - **LO3**: Experiment with different methods of representing, storing, and manipulating datasets in digital systems (Enquiry)

What are the anticipated outputs (anything students will make/do)?

- The planned activity session is for students to study the Python/JavaScript codes for the case studies in groups, and verbally describe and explain the codes to the class.

Are there potential difficulties or specific areas of concern?

- Since it's a joint unit, students from BSc Computer Science might not be familiar with some of the concepts in linear algebra, because they didn't have the Math and Statistics unit last term. I'll try to explain these concepts in easier terms.

How will students be informed of the observation/review?

- I'll send a Slack message to the students before the class to inform them that the session will be observed by a colleague in the room, and clarify that the instructor is the subject/observee. This will be verbally reiterated at the beginning of the session.

What would you particularly like feedback on?

- I'll do some recaps/calibrations on the prerequisite knowledge with students during the session. So mostly on the clarity of narrative and explanation, and perhaps the overall flow/speed of the lecture.

How will feedback be exchanged?

- Feedback will be exchanged via email.

Part Two

Observer to note down observations, suggestions and questions:

Jasper delivered a session on Digital systems: Computer science x Digital images x Data science for the Creative Computing institute at UAL. I observed the first hour of the session.

Jasper sent the slides in advance so I could look at the material before the session. This was helpful to get acquainted with it beforehand, considering it had technical computing elements I was not familiar with. It also gave me an idea of what to expect on the day.

When students arrived in the room, they chose freely where to sit and arranged themselves in table groups of 4 or 5. The slides for the session were displayed in several monitors throughout the room, making visibility of the material easily accessible to everyone, including students that sat at the back. Jasper used a microphone to ensure that everyone heard clearly. There was an interpreter present in the session for a student with a hearing impairment.

Jasper was a new face to many of the students, being his first point of contact with some. He introduced himself and gave his background for new students. He invited students to get in touch with any questions and gave his UAL contact email information.

He did a recap of previous sessions and explained how this one fit into the sequence of learning (last week hardware, this week software)
He clarified learning outcomes and outlined the agenda. The session would be split in 2: a lecture and a practical workshop to apply case studies.

Jasper checked with a show of hands if students had previous knowledge of JavaScript and Python to acknowledge the level of the cohort. He explained that they did not need previous knowledge and put students at ease.

Throughout the lecture, Jasper used a pen to interact with the slides, drawing a red line to point out things or write equations as he explained concepts - this made the slides more dynamic, turning them into a whiteboard and helping with explaining concepts. He purposely left space in the slides to write equations, showing good planning on his side.

Jasper used live code to illustrate concepts and directed students to use Google Colab, where they can run code online rather than download software.
Throughout the session, students used Google Colab to test code as the lecture was ongoing – helping to deepen the understanding of the concepts as they were explained. Overall, students were engaged, and their attention was retained throughout. There was a break roughly 45 minutes in, allowing students to recharge before continuing.

The information in the lecture was technical, but was often contextualised into the creative realm by showing examples of it in use in art (moving image and photography)
Example: John Whitney, catalog (1961) – the world's first computer animation

Because of the nature of the lecture (straightforward delivery to an audience with the lecturer at the front) there were not many chances to specifically check on the students one to one – that was left for the second half of the session where the more hands-on element came in.

A question I might pose is: would the lecture become too long if there were tasks in-built after every concept was introduced? Would it be possible to let students have a go at playing with the code rather than them doing it independently as the lecture is ongoing so the tutor can do some concept checking?

Part Three

Observee to reflect on the observer's comments and describe how they will act on the feedback exchanged:

Ignacia's feedback is very timely, which has given me time to update some of the planning for next week's session.

The interpreter with the student with hearing impairment was something I hadn't planned before the lecture. It was the first time I worked with an interpreter - although I checked with them to see if there was anything I needed to pay attention to, at the beginning I was still a bit nervous about the overall accessibility of the delivery. I checked on them after the first half of the lecture, and they helped me turn on the auto-transcript in PowerPoint, which I think helped the overall interpretation.

Ignacia mentioned that I write equations and diagrams on the slides with a pen. This is something that I kept doing but haven't thought/reflected much about. Compared to simply putting content on the slides in a click-to-display way, writing them down seems to be a way to intentionally slow things down and give learners time to think/absorb. Recalling my previous slide preparation process, I actually didn't have a rule of thumb on deciding what to put into slides and what to write live - it would be nice to reflect on this aspect in future teaching.

It was great to know that students opened the Google Colab while the lecture was ongoing. This made me realise that the live coding section seems to be a good chance to be turned into a hands-on element next time, where students follow the actions of the instructor to work on a task together.

Ignacia pointed out that the lecture part was overly long and there were not many chances to check on the students one-on-one. This was indeed something that I also noticed during the lecture - students can lose focus toward the end of the session. Letting students play with the code after every concept was introduced seems a sensible idea to keep them on track, as well as give me some chances for concept-checking. This is very timely feedback since I

have another session with a similar setting next week and I'm currently working on the final tweak of the content. The plan is to have small demo sections (similar to the Google Colab section), but stop for 5 minutes to allow students to explore the code by themselves.
