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The Other Art of Computer Programming

A Visual Alternative to Communicate Computational Thinking

Interview with Focus Group 6000

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Interview with Focus Group 6000

Melanie
Quick questions here, so we are just going to look at pictures. I am going to show you three pictures, on three separate pages, and you have to tell me whether or not it’s for communication, or whether it’s for meaning making, or whether it’s for aesthetics? So do you know what those mean? Those words? You do, don’t you?

Student
I do.

Melanie
So we are looking at this picture ...

Student
[Overtalk] good.

Melanie
... and this picture.

Student
Aesthetics.

Student
Actually, no.

Melanie
Okay, so let’s go back to the first one. So what would this be? So you have got communication, meaning making, or you have got aesthetics?

Student
Communication.

Melanie
So who says communication? Three people, four, five, six ... six people say communication. Right, who says aesthetics?

Student
Last one is always right.

Melanie
Two people, and who says meaning making?

Student
Oh, no.

Student
Oh, yeah, meaning making.
Melanie
Three, so the people that said aesthetics, why?

Student
I put my hand up before [1.12] win.

Melanie
Okay. Who said communication? Why did you say communication?

Student
[Overtalk].

Student

Student
They are, too.

Student
There’s one turtle, two turtle, three turtle, four turtle, five turtle.

Mrs Allen
Shush.

Melanie
You think they are communicating.

Student
Yes. [Multiple]

Melanie
Okay, what about aesthetics. Those people that said aesthetics, why did you say aesthetics?

Student
What does that mean?

Melanie
Pretty, looks good.

Student
Oh, it’s a flower.

Melanie
Right, okay. So, let’s have a look at this one. Does anyone know who that is?

Student
Albert Einstein.
Student
The creator of the turtle.

Melanie
Yes, and he ...

Student
Passed away the other day.

Melanie
Yes, he did, didn’t he, and that’s what the turtle, kind of, looks like, so I will put that in for you.

Student
What are turtles?

Melanie
Little robots.

Student
Silence, please.

Melanie
Has anyone done logo?

Student
No.

Melanie
Well, anyway ...

Student
Photoshop.

Student
... so, is this communication, aesthetics, or meaning making? Okay, put your hands up for meaning making. One, two, three, four. Put your hands up for aesthetics, looks good. One, two, three, four, five, six, for aesthetics. And put your hands up for communication. Two. Thank you.

Okay, those people that said meaning making, why is that meaning making?

Student
It is making something.

Student
Yeah, why.

Student
Out of poop, out of poop.
**Student**
What is he looking at?

**Student**
He is dreaming.

**Student**
The class, he is waiting for the class to end.

**Melanie**
So those people that said aesthetics, why did you say aesthetics?

**Student**
I don’t know.

**Student**
Because he looks nice, he looks like me, older.

**Melanie**
Is that because it’s well drawn.

**Student**
Yes.

**Melanie**
I’m a good drawer?

**Student**
[Overtalk]. You never heard that.

**Melanie**
Okay, what about those people that said communication, why did you say communication?

**Student**
He’s talking to the turtle.

**Student**
He’s holding a turtle.

**Student**
He’s talking to the turtle.

**Melanie**
Okay, so what’s this one, communication, aesthetics, or meaning making? Put your hands up for communication. One person, two people, three people. Is it communication, aesthetics or meaning making?
Student
Meaning making.

Melanie
Why is it meaning making?

Student
Because it has the words, the brain.

Melanie
Three people, so it’s meaning making because it has a word on it, is that right?

Student
Yes. [Multiple]

Student
All of them.

Melanie
Okay, so what about communication, who thinks it’s communication?

Student
How can you communicate with that?

Melanie
Two people, so ...

Student
So, brain, abstract.

Student
It has two brains.

Melanie
What about aesthetics? No one thinks it’s aesthetic, okay, good. Alright everyone, this is your score for role of pictures in learning computer programming, and you mostly said it was meaning making, so the role of pictures. So did everyone ... does everyone remember that question?

Student
No.

Melanie
No, well, you mostly said it was meaning making. If it was communication, or aesthetics, why would pictures be used in computers to communicate?

Student
Facebook.
Melanie
For Facebook, for communication, is that because you have got the icon there?

Student
No, it’s because it’s got words.

Melanie
Because it’s got words.

Student
Glass is good.

Melanie
Okay, so if you think it’s aesthetic, the role of pictures is aesthetic, why would you pick that it was aesthetic? Did anyone pick aesthetic?

Student
No.

Melanie
A couple of people did. No? Okay, I’m just going move through this. So with this question, how did you feel about the circuit, was it easy to understand, or difficult?

Student
I wasn’t here.

Student
There’s a question mark ...

Melanie
So how do you feel about it now?

Student
A, B, D.

Melanie
Is it tricky?

Student
Yes.

Student
I don’t get what’s going on.

Melanie
Why is it tricky?
Student
Because there’s letters.

Melanie
On the circuit?

Student
Yes.

Melanie
So with the input was A and B, and you were given numbers to put in, and then you were asked to solve it by looking at the output from the table, did you use the table output at all?

Student
Ohh.

Student
I’m blind.

Melanie
Did everyone know how to work this out, or was just too tricky, and too hard?

Student
Too tricky.

Student
I just get the ...

Melanie
Do you skip it? Would you know how to work it out?

Student
No.

Melanie
If Marie had shown you this before?

Student
Tricky.

Melanie
Because it was a tricky question.

Student
Yes, it was tricky, wasn’t it.

Student
What does and mean? What does an and mean?
Melanie
My primary school has got 100% for this.

Student
And, nan or north.

Student
Are you calling us dumb?

Melanie
So, I am trying to understand what’s actually going on with the duel coding, like why it’s tricky to ... I’m trying to understand why it’s so tricky?

Student
I don’t know what is going on, I wasn’t here for what you did, so ...

Student
I’ve no guesses.

Melanie
Okay, what about this binary tree, here. So this is the way data is stored in a computer. It’s not stored in a straight line, it’s random, kind of, all over the place, and then we do a trail around it, and we access it in sequence.

Student
It looks like a poop.

Student
Shut up.

Student
Or boobies.

Student
Grow bags.

Student
Grow bags [Laugh].

Melanie
So could the teachers ...

Student
We are not all black.

Melanie
This is going off again, this is not very happy this video.
Student
Yeah, everything in the school is bodged, they get it from [Overtalk].

Student
It’s from Specsavers. Specsavers is expensive.

Melanie
Okay, so can you ...

Mrs Allen
Shh. Pay attention, please.

Melanie
We are nearly at the end, guys, I am nearly finished so just two more minutes. Could you see how you could understand how the code, here, and the picture? So I know some people have done robotics in here ...

Student
I did.

Melanie
... so, let’s just pretend that the robot is actually walking around the stars, okay? Following that trail and visiting each one of those stars in that order. Pretend you have got a robot whose walking the dotted line.

Student
Where’s number three?

Student
It’s good to learn, free lessons.

Melanie
Three is there, the number hasn’t come out.

Student
No, seriously.

Melanie
Okay, so that would be the code.

Student
Yeah.

Student
That coordinate.

Melanie
So could you see how you work that out together?
Student
Yes.

Melanie
Can you see how that would go together, or it wouldn’t work at all? Everyone’s sleepy today.

Student
No.

Student
I don’t even know what’s going on.

Student
Hypo.

Student
I have conjunctivitis [Laugh].

Melanie
Okay, is there a better way that that can be organised, for the year eights, next year.

Student
No.

Student
Make it less messy.

Melanie
Less messy, what’s messy about it?

Student
[Overtalk].

Melanie
So, do you think the coding should be up on the first page ...

Student
Yes.

Melanie
... and matched all on the one page together.

Student
Yes. [Multiple]

Student
Or just clump everything in one.
Student
Yes, like, you should get to read the codes, and then do the answer.

Melanie
So you think it should be the words first before the picture.

Student
Yeah, much easier.

Melanie
Okay, so everyone says ... I'm on the last page now ... everyone said that they learn facts faster with comics. Does anyone want to add anything to that?

Student
Ah, pictures.

Student
I don't read comics.

Melanie
You don't read comics, well, you must have been one of the people that said that they, maybe, didn't agree with it, but mostly people said that they learned facts faster with comics. Is that true?

Student
Yes.

Student
I learn facts [Overtalk].

Melanie
Why is that?

Student
Because they are entertaining.

Student
We are not talking, talking slow.

Melanie
What about learning? And most people thought learning would be easy with comics?

Student
Not really.

Melanie
Does everyone agree with that still, or most people?
Student
If you look at a comic, what do you expect to learn?

Melanie
So some people don’t expect it would be easy to learn with a comic?

Student
It would be fun.

Melanie
It would be fun, but it wouldn’t be easy, is that right?

Student
Uhuh.

Mrs Allen
Is it more attractive with a comic because it’s got a picture on it?

Student
That’s right.

Mrs Allen
Does it catch your attention more because it’s got a comic on it?

Student
What type of comic?

Melanie
Like the comic that I was using the other week, when you filled them out, like an instructional comic, not actually a story comic, or a picture comic, or a graphic novel.

Student
So there’s more than then actual comics?

Melanie
It’s mostly pictures, and less words.

Student
Oh yeah, I like that.

Melanie
So everyone in this class thought they would be good at learning with comics, is that still true?

Student
Uh oh.

Melanie
Why is that?
Student
Because there’s pictures.

Melanie
Because there’s pictures, and the pictures and words work together?

Student
Yes.

Melanie
And you also thought that you’d learn something about programming in the future with comics?

Student
[10.09].

Melanie
Okay, I think that’s it now. Oh, two more questions. Everyone. How about the stories in computer science, like, are you interested in the first … how Grace Hopper found the first bug in her computer, or how Alan Shearing liked to read Snow White, as a child, and then poisoned himself with a cyanide apple?

Student
What?

Student
What?

Student
Did he?

Melanie
Are they interesting those stories to inter-weave them into the curriculum?

Student
It’s funny because he died because of cyanide.

Melanie
Would you like more of that?

Student
What, first …

Student
Just say yes. Yes.

Student
Someone died because of a cyanide apple.
Melanie
Well, just the stories in computer science. There’s a lot of stories that no one actually knows about, like when the first bug, was actually a moth, that flew into one of the machines and stopped it from working.

Student
Uh. What if an ant crawled in?

Melanie
So is that interesting?

Student
That’s why they called it a bug?

Melanie
Yeah, that’s why it’s called a bug.

Mrs Allen
Things like that are quite fascinating, aren’t they?

Melanie
They are, they are really ... and then I mean, that’s a bit gory the Snow White story, but the man that invested the first idea of the computer, on paper, he ended up ... he loved Snow White, and he ended up eating a poisoned apple, one day. That’s interesting, too, but it’s a bit gory.

Student
[Overtalk].

Student
Did Alan Shearing die? How do you get a poisoned apple?

Melanie
It is, it contextualises it.

Adult
[Overtalk] trying to bring in some background as well.

Melanie
Well I am trying to bring interesting things in, because computer science is a little bit boring sometimes, isn’t it?

Student
It just that people kill themselves with an apple.

Melanie
Like robotics is okay, but computer science is boring, so you probably need more stories in it.

Student
[11.48].
Melanie
What about gamification? If you had a comic and each page was timed ...

Student
Uh huh.

Student
What does that mean?

Melanie
... so that you finished it within a certain time limit, would that be a good thing, for the year eights, would that motivate you to finish that page?

Student
It would be a challenge.

Student
No.

Student
Yes.

Student
In zero point two seconds.

Melanie
Who would think it's a good idea?

Student
For what?

Student
Yes.

Student
Oh, no. Is there anything with games, or something?

Melanie
You weren't here. What about achievement badges? So when you ...

Student
Yeah.

Melanie
... finish a unit, you get a badge for achieving?

Student
What about when you ...
Melanie
Or a virtual badge?

Student
For your own achievements, man.

Student
Achievement a lot [12.26].

Mrs Allen
I think achievement badges would be a good idea. Also time, one that’s timed sheets, I think would.

Melanie
Well, also, if it’s timed you can see whose … what page people are on. Also, what about, if you find it difficult on a page, being able to send a message to Mrs Allen about that, instead of putting your hand up, would that be a good idea?

Student
You what? What do you do?

Melanie
So if you are reading the lesson on-line, and you’re stuck, what about instead of putting your hand up, sending a message to Mrs Allen, would that be a good idea? Well, she’s sitting here.

Mrs Allen
Because I would be here, or I would have that on, and maybe walking round, but it might ping.

Melanie
It’s like a ping ...

Student
Like we can have messenger?

Melanie
Like a social thing.

Student
Yeah, but that’s going to be so bad, you know ...

Melanie
Who thinks that would be a good idea?

Student
Yeah, I’m up for that.

Student
If we can talk to our friends.
Melanie
No, there’s no … there’s none of that yet. What about the score at the bottom of the page of how you are actually going, and where you are up to?

Student
I don’t care about the score.

Melanie
You don’t care about the score?

Student
What score?

Mrs Allen
If you are scored for the activity, would you like to see a score?

Student
Can we go?

Melanie
And where you are up to in the lesson.

Student
How many points do we have?

Mrs Allen
Like, do you know, when you fill it in like a survey on-line, that gives you a percentage of how much you have completed, something like that. Would something like that be useful, or not?

Student
You have completed about five per cent.

Mrs Allen
Yeah, but would that be useful, that you know how much you have got to go? Would that be a useful tool to have?

Student
Yes.

Melanie
Okay, that’s it. Thanks everyone, that’s great information. Just going back to the narrative design, who thought the stories would be good interwoven as well?

Student
What does that mean?

Melanie
The stories of the computer science, like the bugs and that.
Student
So a bug went into a machine, and the machine blew up?

Melanie
Yes.

Student
It didn’t blow up.

Mrs Allen
Stopped working.

Melanie
It is interesting.

Student
Oh.

Melanie
Okay, that’s good, thanks everybody. You have been really great today, I am going to leave you alone now.

Student
Okay, bye.

END OF RECORDING