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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

[1.17] turtles.

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 it 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 invented 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