

# Edith Cowan University

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# **The Other Art of Computer Programming**

A Visual Alternative to Communicate  
Computational Thinking

**Focus Group 6000 Transcription**  
*24<sup>th</sup> August 2016*

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# Focus Group 6000 Transcription

24<sup>th</sup> August 2016

Project: The Other Art of Computer Programming

Primary Researcher: Melanie Tarr

Document: FocusGroupDiscussionFinal6000.pdf

Communicator	Time Interval	Verbal Communication
Leader	00:00 00:03 00:07 00:11 00:15 00:20	So I have some quick questions here. So we are just going to look at pictures, I'm going to show you three pictures on three separate pages and you have to tell me whether or not they are, its for communication or whether its for meaning making or whether its for aesthetics. So do you know what those mean, those words?
Participant 1	00:23	Yes
Leader	00:24	You do, don't you? Right so we are looking at this picture.
Participant 2	00:26	This is good
Leader	00:40 00:47	Communication, meaning making or you have aesthetics. So who says communication?
Participant 2?	00:43	Communication
Leader	00:50 00:56	3 people, 4, 5, 6 people say communication. Right, who says aesthetics?
Participant 2	00:57	Last ones always right.
Leader	00:58	2 people? And who says meaning making?
Participant 2	01:01	Oh yeah meaning making
Leader	01:04	Three, OK the people that said aesthetics, why?
Participant 2	01:04	Yep...Because its pretty.
Participant 1	01:08	I just put my hand up for four of them which means I win!
Leader	01:13 01:16	OK. Who said communication Why did you say communication?
Participant 1	01:15	Because the turtles... What about aesthetics? What does that mean?
Participant 2	01:15	Because of the look...It says...
Participant 1		There is 1 turtle, 2 turtle, 3 turtle, 4 turtle, 5 turtle

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Participant 2		undecipherable
Leader	01:22	You think they are communicating?
		Random talking
	01:27	What about aesthetics? Those people that said aesthetics
	01:28	why did you say aesthetics?
Participant 1	01:29	What does that mean?
	01:30	Pretty, looks good.
Leader	01:31	What about this one, who is it?
Participant 1	01:32	It's a flower
Leader	01:34	Right OK
		Yelling
	01:40	Does anyone know who that is?
Participant 2	01:41	Albert Einstein.
Leader	01:44	This is...
Participant 2	01:44	The creator of the turtle.
Leader	01:	And he...
Participant	01:48	Passed away
Leader	01:51	That's what the turtle kind of looks like so I put that in for
	01:52	you.
Participant 1	01:53	What turtle?
Leader	01:55	It's a little robot.
Participant 2		One minute of silent please
Leader	01:56	Has anyone done LOGO?
Participant 2		Yeah I have...Photoshop
Participant 1		I did
Leader	01:58	Well anyway. Is this communication, aesthetics or
	02:00	meaning making. Put your hands up for meaning making.

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	02:10 02:13 02:16	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 um...communication.
Participant	02:23	Giggle
Leader	02:25	Two, thank you
Leader	02:28	OK those people that said Meaning making Why is it meaning making:
Participant 2	02:32	Yeah why
Participant 1	02:33	He's making something
		Out of poop
	02:34	Out of poop
Participant 2	02:35	What is he looking at? He's dreaming?
Participant 1	02:38	The clock...He's waiting for the class to end.
Participant		giggle
Leader	02:40 02:41	So those people that said aesthetics... Why did you say aesthetics?
Participant 1?	02:43	Because he looks nice. He looks like me...old?
	02:45	Is that because it's well drawn?
Participant 1	02:47	Yes
Participant 2	02:48	He's psycho
Participant 1	02:48	You don't know that
Participant 1?	02:48	You never heard that
Leader	02:50 02:53	And what about...those people that said communication why did you say communication?

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Participant 1?	02:55	He's talking to the turtle..
Participant 1	02:57	He's holding a turtle
Leader	02:58 03:03	OK, so what's this one, communication, aesthetics or meaning making? Put your hands up for communication.
Participant 1	03:03	Meaning making
Leader		One person, two people, three people
Leader	03:14	With this question is it communication, aesthetics or meaning making?
Participant 2	03:20	Meaning making.
Leader	03:21	Why is it meaning making?
Leader	03:21 03:22	Why is it meaning making? Is it meaning making because it has a word on it, is that right?
		Yes
Leader	03:27	So...What about communication, who thinks its communication?
Participant 2	03:30	How can you communicate with that.
Participant 1	03:32	There is two brains
Participant 2	03:34	Shhhhhh...you're a womaniser
Leader	03:38 03:40	What about aesthetics, no one thinks its aesthetic? OK good.
Leader	03:44 03:50 03:52 03:54	Right everyone this was your score for role of pictures in learning computer programming and you mostly said it was meaning making, so ... the role of pictures? So, does everyone remember that question?
Participant 1	03:56	No
Leader	03:57	Well you mostly said it was meaning making.
Leader	04:00	If it was communication or aesthetics, why would pictures

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	04:01	be used in computers to communicate?
Participant 1	04:05	Face book
Leader	04:10	For facebook, for communication?
Leader	04:13	Is that because you have the icon there?
Participant 1	04:14	That's cause its got words.
Leader	04:16	Because its got words?
Participant 1, Participant 2	04:20	This is good.
Leader	04:21 04:23 04:26	OK so if you think it is aesthetic, the role of pictures is aesthetic, why would you pick that it was aesthetic? Did anyone pick aesthetic?
Participant	04:28	no
Leader	04:34 04:39 04:48 04:52	A couple of people did. No...ok I'm just going to move through this. So with this question, How did you solve... How did you feel about the circuit? Was it easy to understand or difficult?
Participant 1	04:49	ahhh
Participant 1	04:50	I wasn't here.
Participant 1	04:54	There's question marks, definitely...
Leader	04:55	So How do you fell about it now?
Participant 1	04:57	A, P, D
Participant 1	04:58	Yes
Participant 1	04:59	I don't get what's going on.
<b>Participant 1</b>	04:58	Yes... I don't get what's going on
<b>Leader</b>	04:59	Why is it tricky?
Participant 1	05:00	Cause there's letters

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Leader	05:04	On the circuit?
Participant 1	05:05	Yes
Leader	05:06 05:07 05:08	So with the input you were given 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...
Participant 1	05:15	Huh?
Leader	05:16 05:21	Did you use the table output at all? Did everyone know how to work this out?
Participant 1	05:21	No
Leader	05:23	Or was it just too tricky and too hard?
Participant 1	05:25	Too tricky
Participant 2	05:26	I skipped it.
Leader	05:29 05:31	Did you skip it? Would you know how to work it out? If xxxx had shown you this before?
Participant 3	05:32	Tricky
Leader	05:33	Because it was a tricky question
Participant 4	05:35	Yes it was a tricky question.
Participant 1	05:37	What does "AND" mean, what does NAND mean?
Leaders	05:40	My primary schoolers got 100% for this
Participant 1		Are you calling us dumb?
Leader	05:45	I'm trying to understand what is going on with the dual coding. Like...why is it tricky
	06:06	I was not here for what you did?
Leader	06:08 06:09 06:11 06:14	Ok, what about this binary tree here. This is the way data is stored in a computer it is not stored in a straight line, its random, all over the place... and then we do a trail around it and we access it in sequence.

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Participant 1	06:19	That looks like <i>(undecipherable)</i>
Participant 3	06:21	Shut up
Leader	06:25 06:29	So, could the pictures, oh this is going off again this is not very happy this video <i>(about smartboard)</i> .
Participant 2	06:32 06:35	Yeah everything at this school is budget, they get it from Specsavers.
Participant 1	06:27	It's pretty expensive
Leader	06	OK so can you...
Teacher	06	Pay attention please.
Leader	06:46	We are nearly finished I've only got two more minutes. Um could you see how you could understand how the code here
Participant 2	06:53	Uh huh
Leader		And the picture...So I know some people have done robotics in here <i>(earlier observation)</i>
Participant 1		What robot?
Participant 1		I do
Leader	07:01 07:03 07:04 07:12	So lets just pretend that the robot is actually walking around the stars. OK, following that trail and visiting each one of those stars in that order. Pretend you've got a robot whose walking the dotted line.
Participant 2	07:10	Where's number three?
Participant 2	07:14	That's good to like, three lessons.
	07:16 07:20	Three is there, the number hasn't come out. OK so that would be the code
Participant 1	07:25	<i>Yawn</i>
L	07:29	So could you see how you would work that out together?

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Participant 1	07:30	Yes
L	07:32 07:34	Could you see how that would go together or it would not work at all. Everyone's sleepy today.
Participant 1	07:38	I don't even know what's going on.
Participant 2	07:40	I have conjunctivitis.
Participant 1 & 2	07:41	(Giggle)
Leader	07:43	OK is there a better way that that can be organised, for the Year 8s next year
Participant 1	07:45	No
Participant 2	07:46	Hmmmm
Jessica	07:48	Make it less messy!
Leader		Make it less messy. What is messy about it?
Participant		
Leader	07:57	So do you think the coding should be up on the first page?
		Yes
Leader	07:58	Than pictures when the pictures and words work together?
Participant 1	07:59	Yes
		And matched all on the one page together?
Jessica	08:01	Yeah
Participant 1		Yes
Participant 2	08:06	Yes you should, get them to read codes and then give them the answer.
	08:07	You think it should be the words first before the picture?
Participant 1	08:09	Yes, much easier!
Leader	08:20	OK so everyone said, I'm on the last page now, everyone said that they learn facts faster with comics. Does anyone want to add anything to that?

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Participant	08:23	
Participant 1	08:24	I don't read comics
	08:26	You don't read comics?
	08:31 08:35 08:38	Well you must be one of the people that said maybe they didn't agree with it, but mostly people said they learn facts faster with comics. Is that true? Why is that?
Participant 2	08:40	Yes
Participant 2	08:41	It's entertaining and not talking....Talking sucks.
Participant 2		Ha
	08:44	What about learning...And most people thought that learning would be easy with comics.
Participant 2	08:46	Not really
Leader	08:50	Does everyone agree with that still...or most people?
Participant 2	08:53	If you look at a comic what are you going expect to learn?
	08:58 09:00	Right so you. So some people don't expect it would be easier to learn with a comic?
Participant 2	09:02	Maybe...
Participant 2	09:05	It would be fun
Leader	09:06	It would be fun, but it would wouldn't be easy...Is that right?
Participant 2	09:07	Yeah
		Uh huh
Teacher		Is it more attractive as a comic, because it's got a picture on it?
Participant 2	09:10	That's right
Teacher	09:13	Huh? Is it more...Does it catch your attention?
Participant	09:15	What?

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Teacher	09:16	Does it catch your attention more because it's got a comic on it?
Participant 1	09:19	What <b>type</b> of comic?
Leader	09:22 09:30 09:35	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.
Participant 1	09:36	So there is more words than the actual comics?
Leader	09:40	It's mostly pictures and less words.
		Oh yeah...I'm
	09:45	So everyone in this class thought they would be good at learning with comics. Is that still true?
Participant 2	09:50	Oh yeah...Absolutely
Leader	09:52	Why is that?
Participant 2	09:54	Because there's pictures.
Leader	09:56	
Participant 2	10:00	Yes
Leader	10:02 10:05	Um and you all thought you would learn something in the future with pictures about comics.
Participants	10:09	Random talking
Leader	10:11 10:12	OK I think that's it now... Oh two more questions, Everyone.
Leader	10:13 10:20 10:24 10:26	How about the stories in computer science, are you interested in how Grace Hopper found the first bug in the computer or how Alan Turing liked to read Snow White as a child and then poisoned himself with a cyanide apple.
	10:28	WHAT!!!
	10:30	Did he???

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Leader	10:31 10:33	Are they interesting those stories to interweave them into the curriculum?
		It's funny because he died because of
Leader		Would you like more of that?
Participant	10:40	If someone died with a cynide apple?
Leader	10:47 10:48	There's a lot of stories that no one actually knows about like the first bug was actually a moth, that was, flew into one of the machines and stopped it working.
	10:49	What if an ant crawled in there?
	10:50 10:55	Huh??? Is that why they called it a bug?
Sandra	10:56	Yeah
Teacher	11:00	Things like that are quite fascinating aren't they.
Leader	10:57 10:58 11:00 11:15	Ummm. That's a bit gory the Alan Turing 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 interest too but
Participant 2	11:19	Did Alan Turing die?
Participant 1	11:30	How did he get a poisoned apple?
Leader		This contextualises it
Teacher	11:33	I think it's good to bring a bit of background into it.
Leader	11:35	Well I'm trying to brings some interesting things in because computer science is a little bit boring sometimes,
Participant 1	11:38	It's sort of interesting that people kill themselves with an apple.
Participants	11:40	How did he kill himself with an apple?
Leader	11:42	Robotics is OK but computer science is a bit boring so you

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	11:44	probably need more stories in it.
Leader	11:46	What about Gamification?
Participant 1	11:50	Game of Thrones???
Leader	11:55	Because if you had a comic and each page was timed,
Participant 4	11:54	What does that mean.
Leader	11:56	So that you finished it at a certain time limit
Participant 1	12:00	Two hours
	12:00	Would that be a good thing for the Year 8s would that
	12:04	motivate you to finish that page?
Participant 1	12:03	You would feel a bit challenged
Participant 4	12:07	In 0.2 seconds
Leader	12:08	Who would think it's a good idea?
Participant 1	12:10	For what? Yes!!!
Participant 4	12:13	Is there anything with games or something?
Leader	12:14	You were not here.
Leader	12:16	What about achievement badges? So when you...
Participant 1	12:10	Yes!!!
Leader	12:18	finish a unit you get a badge for achieving?
Participant 1	12:20	What about when you
Leader	12:23	Or a virtual badge?
Participant	12:25	So your auditing us man!
Participant	12:27	Yeah "Achievement unlocked" achievement
Teacher	12:28	Yeah I think that is a good idea also time limits like those.
Leader	12:30	Well also if it's timed you can see what page people are
	12:31	on.

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	12:32	Shhhhhh
Leader	12:39 12:46	Also what about um if you are finding it difficult on a page, being able to send a message to xxxx about that instead of putting your hand up. Would that
Participant 1	12:47	What?
Leader	12:48	Would that be a good idea?
Participant	12:49	You what?
Participant	12:50	What do you do?
	12:51	So if you are reading the lesson online...
Participant 4	12:54	Yes
Leader	12:55 12:56	and you're stuck...what about instead of putting your hand up sending a message to xxxx
Leader	13:10	Its like a ping, its like a social thing
Participant 1	13:11	Yeah but that's going to be so bad.
Participant	13:13	Oiy
Leader	13:14	Who thinks that would be a good idea?
Participant 1	13:15	Yep I'm up for that!
Participant	13:16	If we can talk to our friends
Leader	13:18	No there is nothing for that yet!
Leader	13:23	What about the score at the bottom of the page of how you're actually going or where you are up to?

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Participant 3	13:24	I don't care about the score!
Leader		You don't care about the score.
Participant 1		What score?
Teacher		If you scored from the activity.
		And where you are up to in the lesson.
Participant 3	13:34	How many points do we get?
Teacher	13:36 13:38 13:40	You know how you fill in a survey online and it gives you a percentage of how much you've completed. Something like that would that be useful or no?
	13:47 13:48	But would that be useful if you know how far you've got to go?
		No!
Participant 1	13:52	Yes
Leader		OK that's it, thanks everyone that's great information. Just going back to narrative design who thought the stories would be good interwoven as well?
Participant 1	14:06	What does that mean?
Leader	14:08	The stories of computer science like the bugs
Participant 1	14:09	So a bug blew into the machine and the machine blew up?
Participant 3	14:11	
Leader	14:21 14:23	OK thanks everybody you have been really great today. I'm going to leave you alone now.
Participant 3	14:29	OK bye