Survey - Using Design in Primary Programming - Research Project

We would like to invite you to complete a 15 minute survey about how you use design in programming lessons and how you use planning in writing lessons.

If you would like to take part, we would be very grateful, but you should only take part if you want to – it is entirely up to you. If you choose not to take part, there won't be any disadvantages for you, and you will hear no more about it.

Please read the following information carefully before you decide to take part; this will tell you why the research is being done and what you will be asked to do if you take part. Please ask if there is anything that is not clear or if you would like more information.

This work is being undertaken because pupils across England are now required to study computing from the start of their primary education, including solving problems by creating programming projects. This study hopes to better understand how we teach young learners and therefore help develop methods for teaching programming. We are asking you to complete a short survey about how you teach programming and how you teach writing.

All data will be anonymised, meaning that individuals cannot be identified from the data gathered and evidence presented.

If you choose to share your email address so we can ask follow up questions, the emails will be separated from your answers when the data is analysed and will not be part of the analysis. We will not share your email address with anyone. Data will be stored on password-protected computers or in locked containers.

Please email the principle researcher Jane Waite (j.l.waite@qmul.ac.uk) if you need more information.

If you have any questions or concerns about the manner in which the study was conducted please, in the first instance, contact the researcher responsible for the study. If this is unsuccessful, or not appropriate, please contact the Secretary at the Queen Mary Ethics of Research Committee, Room W104, Queen's Building, Mile End Campus, Mile End Road, London or research-ethics@qmul.ac.uk.

The ethics approval number for this research is QMREC2007a

* Required

1. **Do you teach programming?** *
   Mark only one oval.

   ◯ Yes

   ◯ No   *Skip to question 24.*

About teaching programming

2. **How confident are you teaching programming?**
   Mark only one oval.

	1	2	3	4	5	
Very confident	◯	◯	◯	◯	◯	Not at all confident

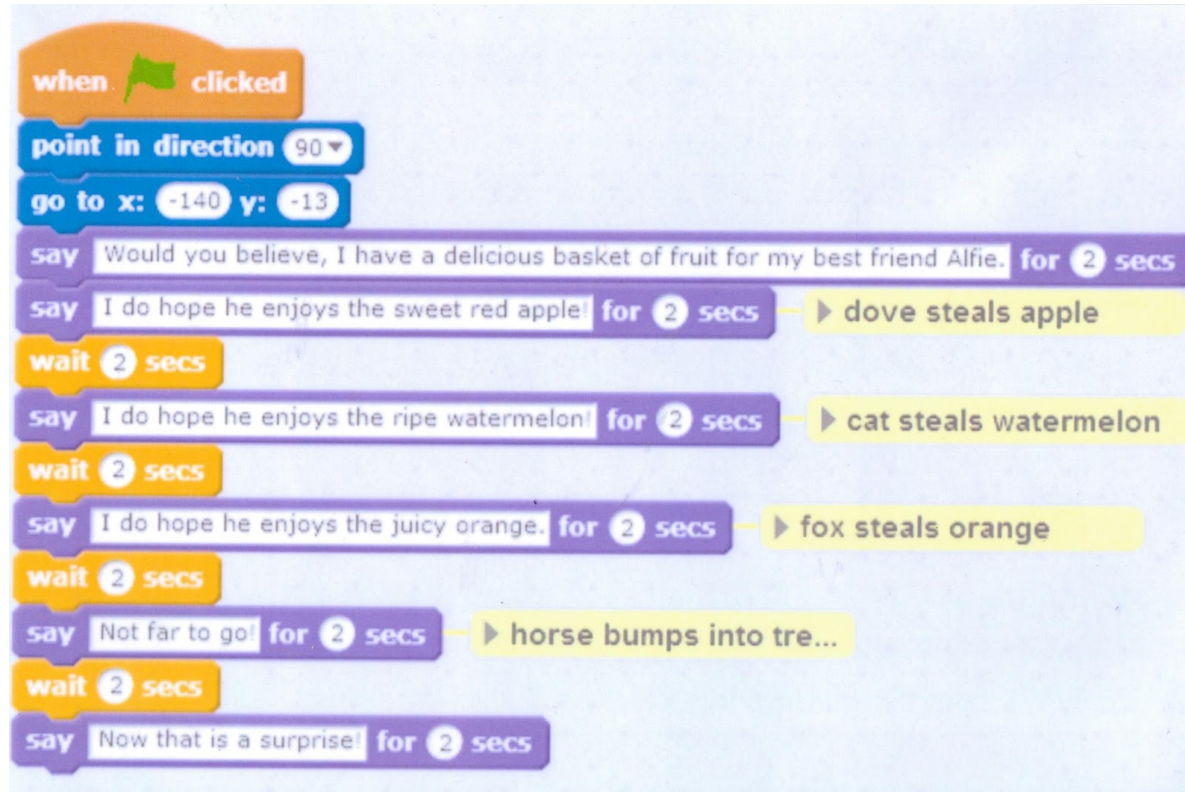3. **What planning do you use for teaching programming? For example, we follow Somerset Grid for Learning plans, we make up our own and use Barefoot material.**

   _____

   _____

   _____

   _____

   _____

4. **What programming languages do you use to teach programming to your current class?**

Mark only one oval per row.

	Mostly	Sometimes
Scratch	◯	◯
2Code (Purple Mash)	◯	◯
Espresso Coding	◯	◯
ScratchJnr	◯	◯
Hopscotch	◯	◯
Daisy the Dinosaur	◯	◯
Blockly (e.g. Hour of Code)	◯	◯
Kodu	◯	◯
Python	◯	◯

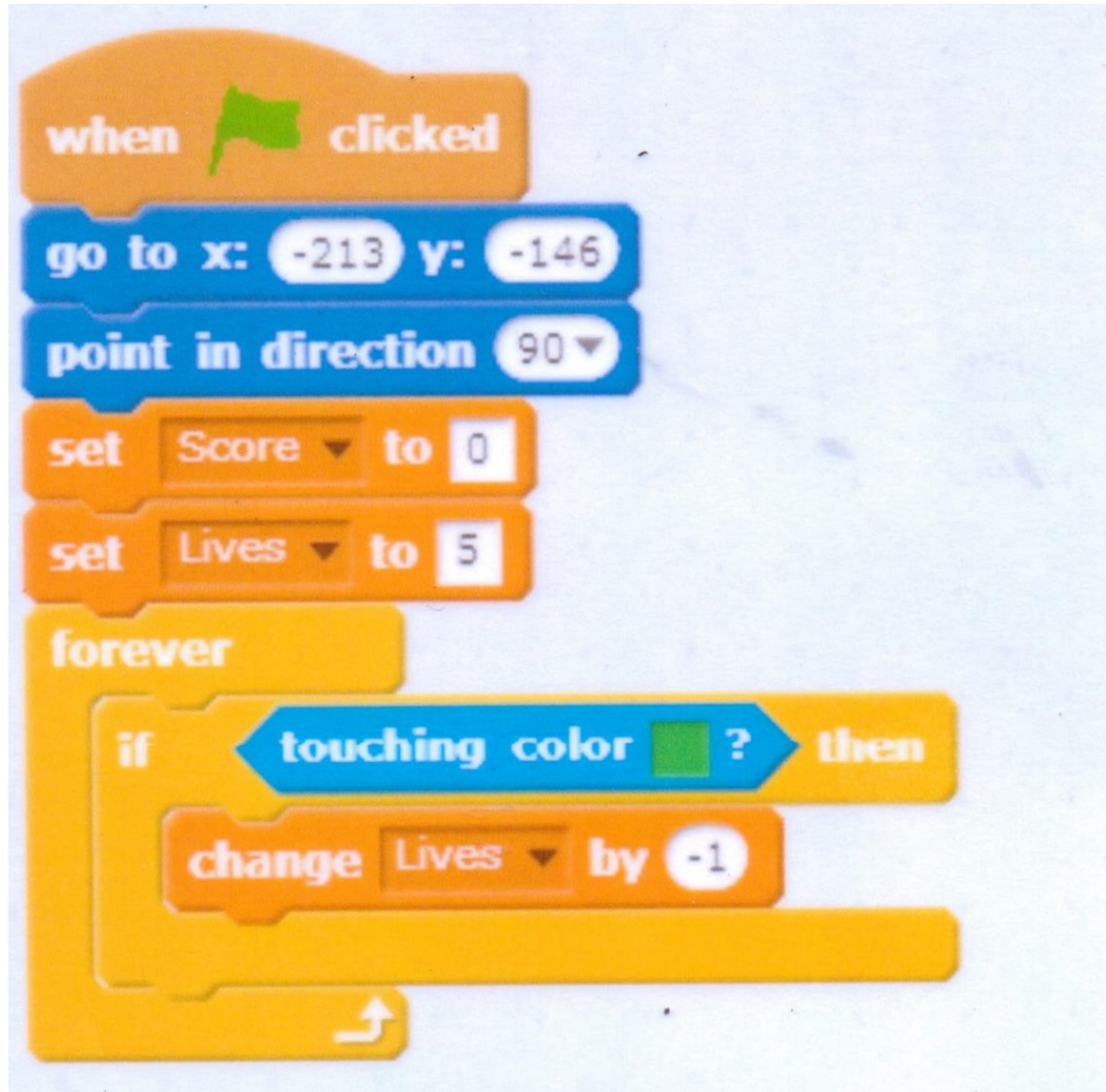5. **If you teach any other programming languages to your class please list them.**

_____

6. **Which of these words would you use to describe this image? (You can choose more than one word if you like.) It is a picture of ...**
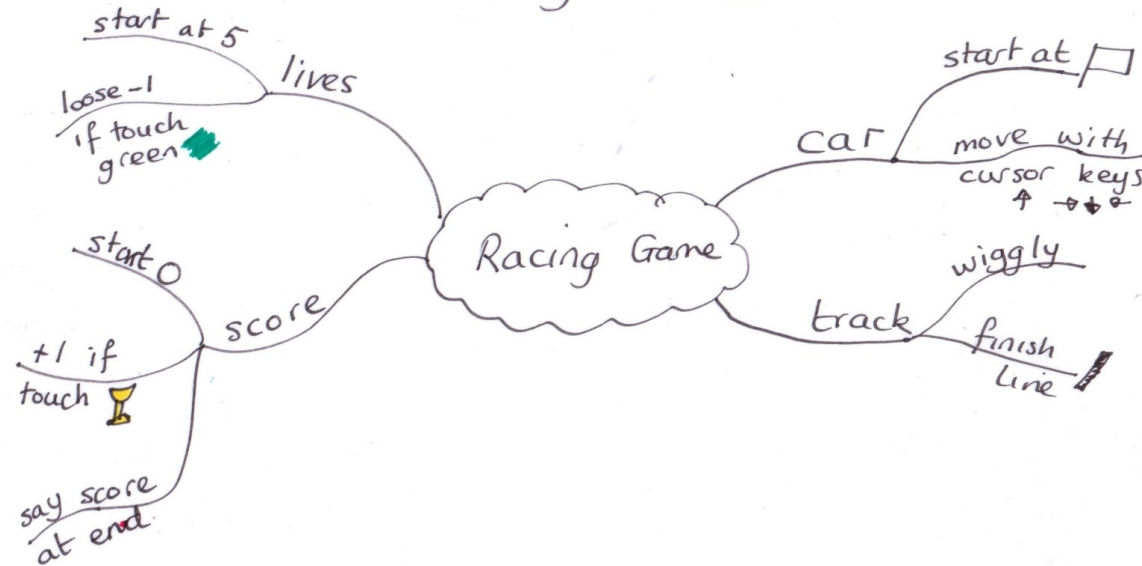


```
when [flag] clicked
point in direction 90▾
go to x: -140 y: -13
say Would you believe, I have a delicious basket of fruit for my best friend Alfie. for 2 secs
say I do hope he enjoys the sweet red apple! for 2 secs    ▶ dove steals apple
wait 2 secs
say I do hope he enjoys the ripe watermelon! for 2 secs    ▶ cat steals watermelon
wait 2 secs
say I do hope he enjoys the juicy orange. for 2 secs    ▶ fox steals orange
wait 2 secs
say Not far to go! for 2 secs    ▶ horse bumps into tre...
wait 2 secs
say Now that is a surprise! for 2 secs
```

Check all that apply.

☐ A program

☐ Some code

☐ A plan

☐ An algorithm

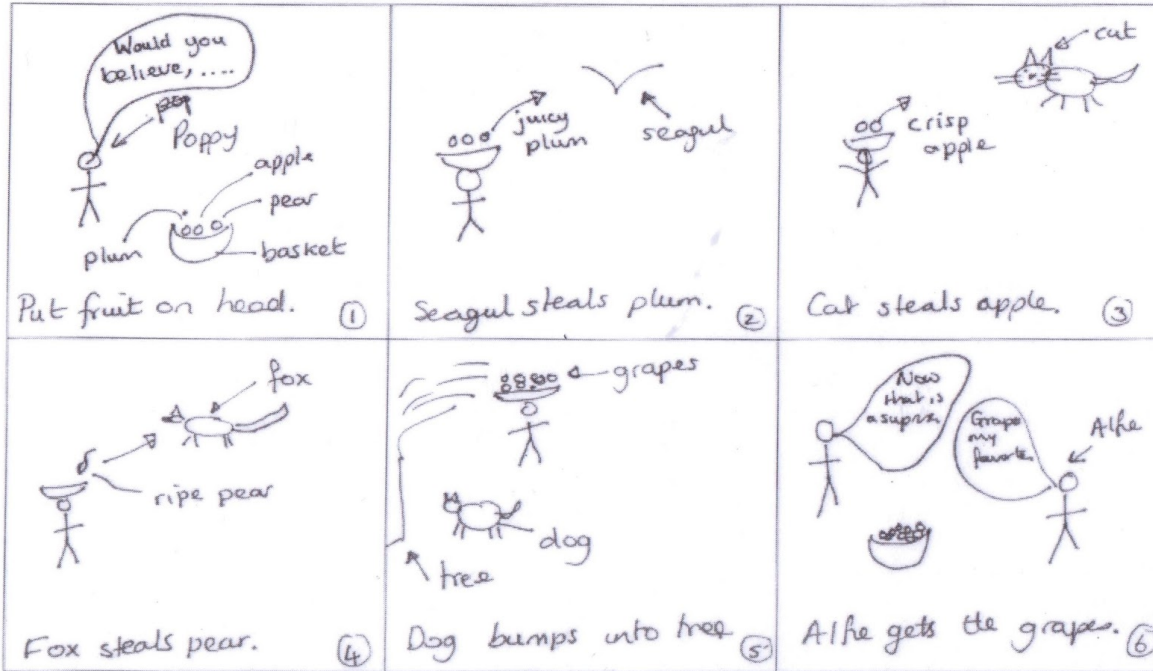☐ A script

☐ A design

☐ Other: _____

7. **Which of these words would you use to describe this image? (You can choose more than one word if you like.) It is a picture of ...**

Check all that apply.

☐ A program

☐ Some code

- [ ] A plan
- [ ] An algorithm
- [ ] A script
- [ ] A design
- [ ] Other: _____

8. **Which of these words would you use to describe this image? (You can choose more than one word if you like.) It is a picture of ...**

start at 5

loose -1
if touch
green

lives

start at ▢

car / move with
cursor keys
↑ ←↓→

start O

score

Racing Game

wiggly

track

finish
Line

+1 if
touch 🏆

say score
at end

Check all that apply.

- [ ] A program
- [ ] Some code
- [ ] A plan
- [ ] An algorithm
- [ ] A script
- [ ] A design
- [ ] Other: _____

9. **Which of these words would you use to describe this image? (You can choose more than one word if you like.) It is a picture of ...**

Check all that apply.

- [ ] A program
- [ ] Some code
- [ ] A plan
- [ ] An algorithm
- [ ] A script
- [ ] A design
- [ ] Other: _____

10. **What training have you had related to programming?**
Check all that apply.

- [ ] None
- [ ] Self taught, e.g. MOOCs, reading books, on the job
- [ ] Programming was covered in my initial teacher training
- [ ] Programming was not covered in my initial teacher training
- [ ] Conferences, short courses
- [ ] BCS Certificate
- [ ] GCSE level
- [ ] A level
- [ ] Degree or above
- [ ] Other: _____

11. **Have you had any specific training on using design in programming?**
Mark only one oval.

- ( ) Yes
- ( ) No

12. **If yes, please explain.**

_____

_____

_____

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_____

13. **When teaching programming, do you require your pupils to consider or use a design at some point? By design we mean a high-level plan of what program is intended to do. A design could be verbal, written or drawn, informal or formal.** *

Mark only one oval.

◯ 1 Always   *Skip to question 14.*

◯ 2 Usually   *Skip to question 14.*

◯ 3 Sometimes   *Skip to question 14.*

◯ 4 Rarely   *Skip to question 14.*

◯ 5 Never   *Skip to question 24.*

Using design in programming

14. **Based on your recent practice of teaching programming projects, did you expect pupils to ....**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
create a design before they start coding?	◯	◯	◯	◯	◯
create a design at some point, but not straight away?	◯	◯	◯	◯	◯
annotate their design with useful code snippets?	◯	◯	◯	◯	◯
refer to their design when coding?	◯	◯	◯	◯	◯
tick off what they have done so far on their design?	◯	◯	◯	◯	◯
change their design once they have started coding?	◯	◯	◯	◯	◯
mark things that did not work on their design?	◯	◯	◯	◯	◯
note on their design their confidence to implement the different parts?	◯	◯	◯	◯	◯
evaluate their design as they go along?	◯	◯	◯	◯	◯
evaluate their design when they have finished their coding?	◯	◯	◯	◯	◯

15. **For programming projects, do you**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
mark the designs created by pupils?	○	○	○	○	○
keep designs created by pupils?	○	○	○	○	○
use a design as a contract to support pupils when programming in pairs?	○	○	○	○	○
use designs to differentiate work?	○	○	○	○	○
use the designs created by pupils to work out what to teach next?	○	○	○	○	○
demonstrate to pupils (model) the creation of designs?	○	○	○	○	○
demonstrate to pupils the use of designs?	○	○	○	○	○
demonstrate to pupils the evaluation of designs?	○	○	○	○	○

16. **Have your pupils been taught more that one programming project in your school?**

Mark only one oval.

○ Yes

○ No

17. **If yes,**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
do you ask pupils to refer back to old designs for new projects?	○	○	○	○	○
do you pass designs on to the next class?	○	○	○	○	○

18. **Do you use design in any other ways or for any other purposes?**

Mark only one oval.

○ Yes

○ No

19. **If yes, please explain how.**

_____

_____

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_____

20. **What formats of design do you use for programming projects?**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
Verbal	⬭	⬭	⬭	⬭	⬭
Written notes	⬭	⬭	⬭	⬭	⬭
Storyboards	⬭	⬭	⬭	⬭	⬭
Concept/Mind Maps	⬭	⬭	⬭	⬭	⬭
Labelled diagrams	⬭	⬭	⬭	⬭	⬭
Pseudocode	⬭	⬭	⬭	⬭	⬭
Flowcharts	⬭	⬭	⬭	⬭	⬭
Other	⬭	⬭	⬭	⬭	⬭

21. **If you use other formats what are they?**

_____

_____

_____

_____

_____

22. **Do you create different types of design for different types of programming projects? e.g. storyboards for animations, lists for quizzes.**

Mark only one oval.

⬭ Yes

⬭ No

23. **If yes, please explain.**

_____

_____

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_____

_____

Teaching writing

24. **Do you teach writing? (By writing we mean literacy or English lessons.)** *
Mark only one oval.

◯ Yes

◯ No   *Skip to question 37.*

More about teaching writing

25. **How confident are you teaching writing?**
Mark only one oval.

	1	2	3	4	5	
Very confident	◯	◯	◯	◯	◯	Not at all confident

26. **When teaching writing of substantial pieces of work, do you require pupils to use a high level plan? (By a substantial we mean a task that will take several days to write, or that is more than a few paragraphs, such as a developed story, or non-fiction piece.)** *
Mark only one oval.

◯ Always   *Skip to question 27.*

◯ Usually   *Skip to question 27.*

◯ Sometimes   *Skip to question 27.*

◯ Rarely   *Skip to question 27.*

◯ Never   *Skip to question 37.*

Using plans in writing

27. **Based on your recent practice of teaching substantial writing tasks, did you expect pupils to ...**
Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
create a plan before they start to write?	⬭	⬭	⬭	⬭	⬭
create a plan at some point, but not straight away?	⬭	⬭	⬭	⬭	⬭
annotate their plan with useful words and phrases?	⬭	⬭	⬭	⬭	⬭
refer to their plan during writing?	⬭	⬭	⬭	⬭	⬭
tick off what they have done so far on the plan?	⬭	⬭	⬭	⬭	⬭
change their plan once they have started writing?	⬭	⬭	⬭	⬭	⬭
mark things that did not work on their plan?	⬭	⬭	⬭	⬭	⬭
note on their plan their confidence to write the different parts?	⬭	⬭	⬭	⬭	⬭
refer back to old plans for new pieces of work?	⬭	⬭	⬭	⬭	⬭
evaluate their plan as they go along?	⬭	⬭	⬭	⬭	⬭
evaluate their plan when they have finished their writing?	⬭	⬭	⬭	⬭	⬭

28. **For substantial writing tasks, do you**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5.Never
mark the plans created by pupils?	⬭	⬭	⬭	⬭	⬭
keep plans created by pupils?	⬭	⬭	⬭	⬭	⬭
use plans to differentiate work?	⬭	⬭	⬭	⬭	⬭
use the plans created by pupils to work out what to teach next?	⬭	⬭	⬭	⬭	⬭
demonstrate to pupils (model) the creation of plans	⬭	⬭	⬭	⬭	⬭
demonstrate to pupils the use of plans?	⬭	⬭	⬭	⬭	⬭
demonstrate to pupils the evaluation of plans?	⬭	⬭	⬭	⬭	⬭

29. **Have your pupils been taught more that one substantial writing task in your school?**

Mark only one oval.

⬭ Yes

⬭ No

30. **If yes,**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
do you ask pupils to refer back to old plans for new writing tasks?	⬭	⬭	⬭	⬭	⬭
do you pass plans on to the next class?	⬭	⬭	⬭	⬭	⬭

31. **What formats of plans do you use for writing?**

Mark only one oval per row.

	1 Always	2 Usually	3 Sometimes	4 Rarely	5 Never
Verbal	○	○	○	○	○
Written notes	○	○	○	○	○
Storyboards	○	○	○	○	○
Concept/Mind Maps	○	○	○	○	○
Labelled diagrams	○	○	○	○	○
Other	○	○	○	○	○

32. **If you use other formats what are they?**

_____

_____

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_____

_____

33. **Do you create different types of plans for different types of writing e.g. storyboards for traditional tales, mind maps for poems.**

Mark only one oval.

○ Yes

○ No

34. **If yes, please explain.**

_____

_____

_____

_____

_____

35. **Do you use plans in any other ways or for any other purposes?**
Mark only one oval.

◯ Yes

◯ No

36. **If yes, please explain how.**

_____

_____

_____

_____

_____

General views on design and planning

37. **Do you think design in programming projects is useful?** *
Mark only one oval.

	1	2	3	4	5	
Very useful	◯	◯	◯	◯	◯	Not at all useful

38. **What DRAWBACKS (if any) are there in asking pupils to use a design in a programming project?**

_____

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_____

_____

39. **What ADVANTAGES (if any) are there in asking pupils to use a design in a programming project?**

_____

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_____

40. **What do you think pupils think about being asked to use a design in a programming project?**

_____

_____

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41. **Do you think planning in substantial writing tasks is useful?** *
Mark only one oval.

	1	2	3	4	5	
Very useful	◯	◯	◯	◯	◯	Not at all useful

42. **What DRAWBACKS (if any) are there in asking pupils to use a plan in a substantial writing task?**

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43. **What ADVANTAGES (if any) are there in asking pupils to use a plan in a substantial writing task?**

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44. **What do you think pupils think about being asked to use a plan in a substantial writing task?**

_____

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_____

45. **Do you have any other comments about design in programming or planning in writing?**

_____

_____

_____

_____

_____

About your teaching

46. What age of pupil do you teach?

Check all that apply.

- ☐ Early Years (aged 3-4)
- ☐ KS1 (aged 5-7)
- ☐ KS2 (aged 8-11)
- ☐ KS3 (aged 12-14)
- ☐ KS4 (aged 14-16)
- ☐ KS5 (aged 17-18)
- ☐ University and above
- ☐ Adults - e.g. other teachers
- ☐ Other: _____

47. How long have you been teaching

Mark only one oval per row.

	More than 5 years	3 to 5 years	2 to 3 years	1 to 2 years	less than 1 year	I don't teach this subject
programming?	○	○	○	○	○	○
writing?	○	○	○	○	○	○

48. What are your teaching roles?

Check all that apply.

- ☐ Classroom teacher
- ☐ Specialist teacher only teaching computing
- ☐ Volunteer teaching programming in class or after school
- ☐ Trainee teacher
- ☐ Resource developer
- ☐ Teacher trainer
- ☐ Computing At School Master Teacher
- ☐ Other: _____

49. **To which gender identity do you most identify?**
Mark only one oval.

- ⚪ Female
- ⚪ Male
- ⚪ Prefer not to answer
- ⚪ Other: _____

End of survey thank you

50. **If you would like to take part in a pilot study using design in programming, please give your email address below.**

_____

51. **If you are happy for us to contact you to conduct a follow up interview, please give your email address below.**

_____

52. **Thank you for completing our survey. If you have any comments, please leave them here. Or, if you have any questions about the survey or the research, please provide you email and question here, or contact j.l.waite@qmul.ac.uk directly.**

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