

**Pilot**

# Proč je dobré studii pilotovat?

- Objevíme problémy technického rázu
- Otestujeme experiment i pipeline pro analýzu dat
- Získáme zpětnou vazbu od účastníků (formulace instrukcí, délka, volba tlačítek na klávesnici...)
- Ušetří to práci našim budoucím já během samotné analýzy dat

# **Psychopy – time generalization experiment**

# Between factor, random assignment

The screenshot displays the PsychoPy Builder (v2023.1.2) interface. The top menu bar includes File, Edit, View, Tools, Experiment, Demos, Pavlovia.org, Window, and Help. Below the menu is a toolbar with various icons for file operations, settings, and execution. The 'Routines' panel at the top shows a sequence of routines: blank2s, blank500, blockStart, experimentDescription, experimentDescription3, feedback, instructionsGeneral, instructionsSpecific2, instructionsSpecific3, **codeRandomizer** (highlighted with an orange circle), and seriesBlo. A timeline at the bottom of the routines panel shows a duration of 10 seconds, with the 'codeRandomizer' component positioned between the 8 and 9-second marks. The 'codeRandomizer' component is also highlighted with an orange underline in the main workspace. The 'Flow' panel at the bottom left shows a diagram with 'Insert Routine' and 'Insert Loop' buttons, and a 'randomizer' component connected to the 'Insert Routine' button. The 'codeRandomizer Properties' dialog box is open, showing the 'Name' field set to 'codeRandomizer' and the 'Code Type' set to 'Auto->JS'. The 'Before Experiment \*' tab is selected, displaying the following code:

```
1 stress = [ ]
2 accuracy = [ ]
3
```

The 'End Experiment' tab is also visible, showing the following code:

```
1 stress = [ ];
2 accuracy = [ ];
3
```

# Between factor, random assignment

codeRandomizer Properties

Name  Code Type  ☐ disabled

Before Experiment \* **Begin Experiment \*** Begin Routine Each Frame End Routine \* Er

```
1 import random
2
3 # Generate a random 0 or 1
4 randNum = random.randint(0, 1)
5 if randNum == 1:
6     stress = 1
7     accuracy = 0
8 else:
9     stress = 0
10    accuracy = 1
```

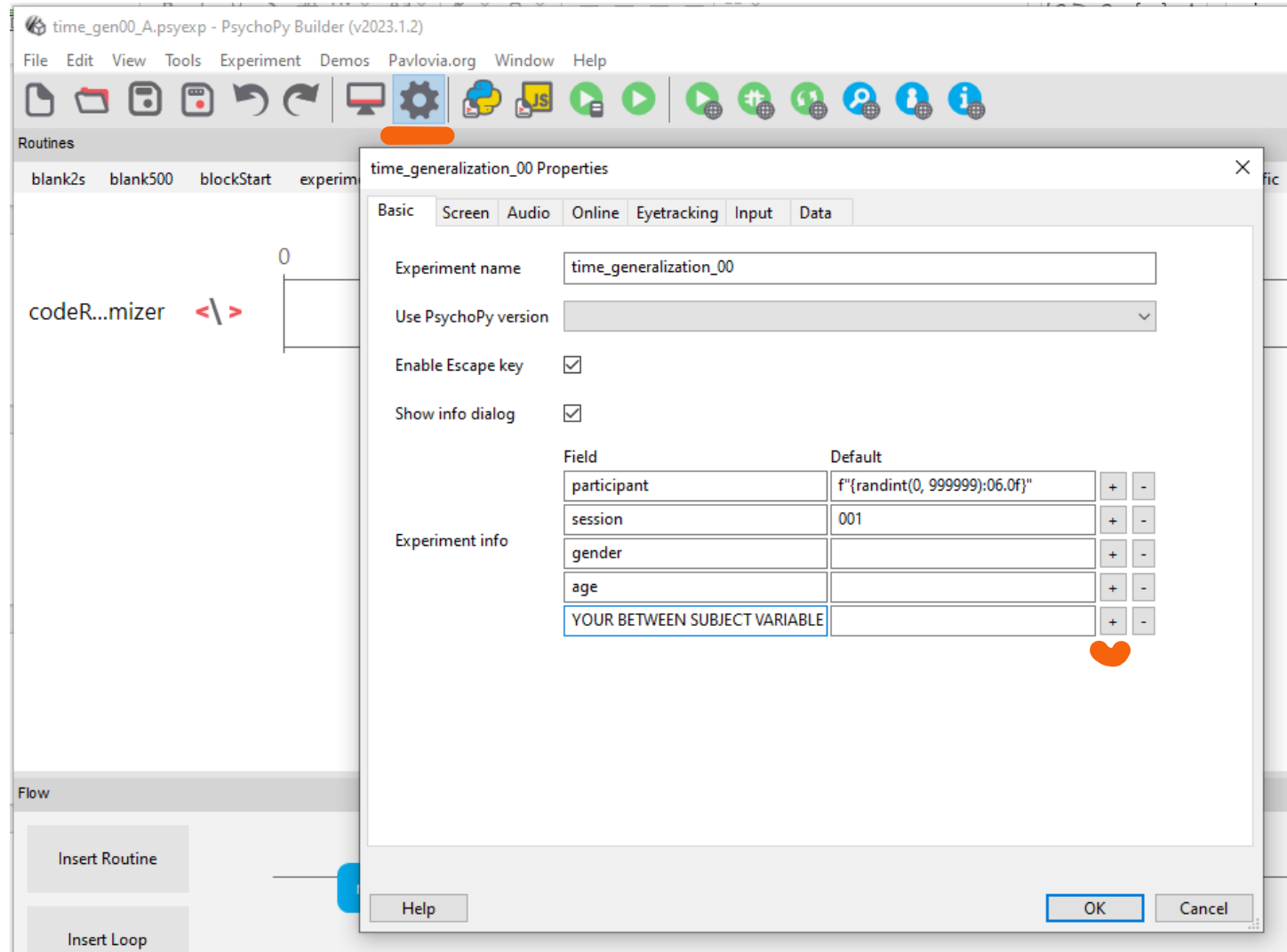
codeRandomizer Properties

Name  Code Type  ☐ disabled

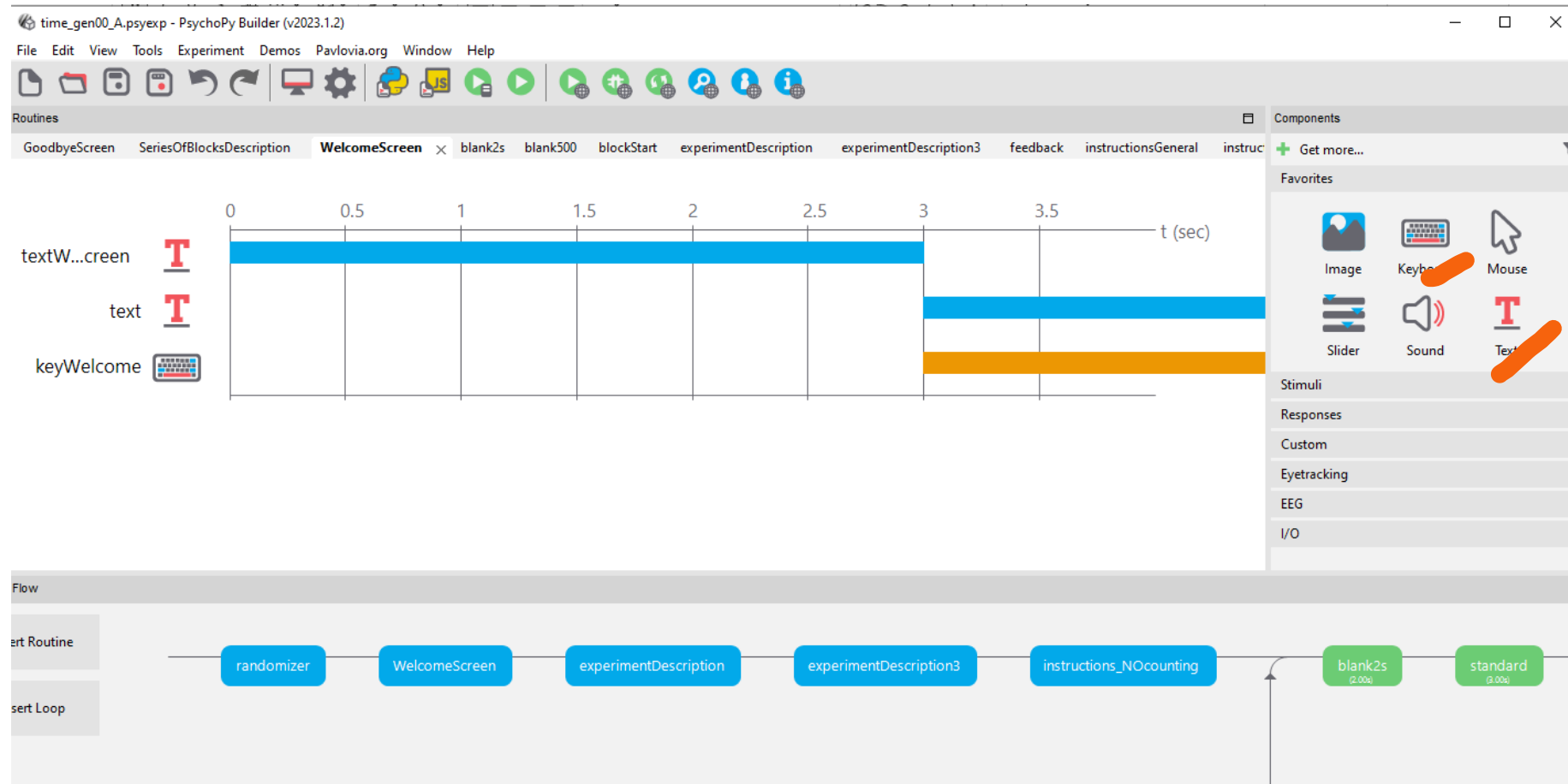
Before Experiment \* Begin Experiment \* Begin Routine Each Frame **End Routine \*** Er

```
1 thisExp.addData('stress', stress)
2 thisExp.addData('accuracy', accuracy)
```

# Between factor, manually



# Instructions



# Loops

time\_gen00\_A.psyexp - PsychoPy Builder (v2023.1.2)

File Edit View Tools Experiment Demos Pavlovia.org Window Help

Routines

GoodbyeScreen SeriesOfBlocksDescription training Properties

Name: training

loopType: random

Is trials: ☒

nReps: \$ 1

Selected rows:

random seed: \$

Conditions: timesTraining.xlsx

10 conditions, with 4 parameters [duration, corrAns, feedback, noFeedback]

Help OK Cancel

Flow

uctions\_NOcounting

blank2s (2.00s)

standard (3.00s)

trial

yourResponseScreen (1.00s)

feedback (1.00s)

training

timesTra...

Soubor Dom Vlože Rozk Vzorn Data Reviz Zobr Auto

Schránka Písmo Zarovnání Číslo Podmín Formát Styly bu

C12

	A	B	C	D	E
1	duration	corrAns	feedback	noFeedback	
2	0.4	n	1	1	
3	0.6	n	1	1	
4	0.8	n	1	1	
5	1	b	1	1	
6	1	b	1	1	
7	1	b	1	1	
8	1	b	1	1	
9	1.2	n	1	1	
10	1.4	n	1	1	
11	1.6	n	1	1	
12					
13					
14					
15					
16					
17					
18					
19					
20					



# Stimuli - standard

The screenshot displays the PsychoPy Builder interface (v2023.1.2) for a routine named 'time\_gen00\_A.psyexp'. The 'Routines' panel shows a sequence of blocks: 'blank500', 'blockStart', 'experimentDescription', 'experimentDescription3', and 'feedback'. The 'polygonStandard' block is highlighted, and its properties are shown in the 'polygonStandard Properties' dialog box.

The 'polygonStandard Properties' dialog box has the following settings:

- Basic: Size [w,h] is  $(0.35, 0.35)$ , Position [x,y] is  $(0, 0)$ , Spatial Units is 'from exp settings', Anchor is 'center', and Orientation is  $0$ .
- Layout: (empty)
- Appearance: (empty)
- Texture: (empty)
- Data: (empty)
- Testing: (empty)

The 'Flow' diagram at the bottom shows the experimental sequence:

- NOcounting (blue box)
- blank2s (2.00s) (green box)
- standard (2.00s) (green box, highlighted with an orange underline)
- trial (blue box)
- yourResponseScreen (1.00s) (green box)
- feedback (1.00s) (green box)
- SeriesOfBlocksDescription (blue box)
- blank2s (2.00s) (green box)
- seriesBlocks (blue box)

A 'training' block is located at the bottom of the flow diagram, connected to the 'blank2s' blocks.

The 'Components' panel on the right shows a list of available components: Image, Keyboard, Mouse, Slider, Sound, and Text. The 'Stimuli' panel shows a list of available stimuli: Aperture, Polygon (highlighted with an orange underline), Dots, Grating, Image, and Movie.

# Stimuli - trial

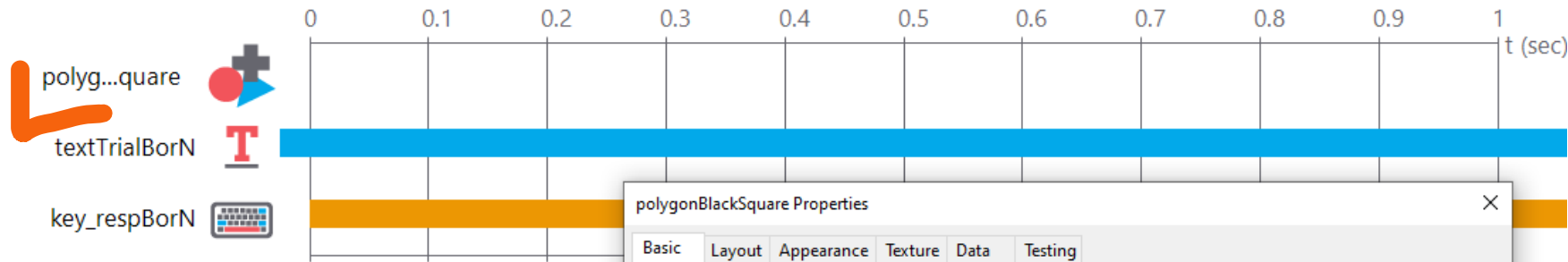
time\_gen00\_A.psyexp - PsychoPy Builder (v2023.1.2)

File Edit View Tools Experiment Demos Pavlovia.org Window Help



Routines

experimentDescription3 feedback instructionsGeneral instructionsSpecific2 instructionSpecific randomizer seriesBlocks standard standardTraining standard\_2 trial x



Flow

blank2s  
(2.00s)

standard  
(3.00s)

trial

polygonBlackSquare Properties

Basic Layout Appearance Texture Data Testing

Name: polygonBlackSquare

Start: \$ time (s) 0.0  
Expected start (s)

Stop: \$ duration (s) \$duration  
Expected duration (s)

Shape: rectangle

Help OK Cancel

'duration' is a variable listed in excel file in the settings of 'training' loop (see slide Loops above)

# Loops – within factor I

The screenshot illustrates the configuration of a 'within factor I' loop in PsychoPy Builder. The 'blockSelector Properties' dialog is open, showing the following settings:

- Name: blockSelector
- loopType: random
- Is trials: ☐
- nReps: 1
- Selected rows: (empty)
- random seed: (empty)
- Conditions: versions.xlsx

Below the dialog, the flowchart shows a sequence of blocks: 'instructionsSpecific2', 'blank2s', 'standard', 'trial', and 'yourResponse'. A 'blockSelector' block is positioned at the bottom, connected to the 'trial' block.

Two Excel spreadsheets are overlaid on the right side of the image, showing data tables. The first table, titled 'List1', has columns A, B, C, and D. The second table, titled 'D12', has columns A, B, C, and D. Both tables contain data for 'duration', 'corrAns', 'feedback', and 'noFeedback'.

Orange arrows indicate the flow of data from the Excel spreadsheets to the 'blockSelector' block in the PsychoPy Builder flowchart.

A	B	C	D
1	version	versionText	
2	times1.xlsx	In this series of 6 bl	
3	times2.xlsx	In this series of 6 bl	

A	B	C	D
1	duration	corrAns	feedback noFeedback
2	0.4	n	
3	0.6	n	0 1
4	0.8	n	0 1
5	1	b	0 1
6	1	b	0 1
7	1	b	0 1
8	1	b	0 1
9	1.2	n	0 1
10	1.4	n	0 1
11	1.6	n	0 1

A	B	C	D
1	duration	corrAns	feedback noFeedback
2	0.4	n	
3	0.6	n	1 0
4	0.8	n	1 0
5	1	b	1 0
6	1	b	1 0
7	1	b	1 0
8	1	b	1 0
9	1.2	n	1 0
10	1.4	n	1 0
11	1.6	n	1 0

# Loops - repetitions

time\_gen00\_A\_psyexp - PsychoPy Builder (v2023.1.2)

File Edit View Tools Experiment Demos Pavlovia.org Window Help

Routines

blank2s blank500 **blockStart** experimentDescription experimentDescription3 feedback instructionsGeneral instructionsSpecific2 instructionSpecific randomizer

textBlockStart **T**

key\_re...kStart

0 0.1 0.2 0.3

1 t (se

Blocks Properties

Name: Blocks

loopType: sequential

Is trials: ☒

nReps: 1

Selected rows:

random seed:

Conditions: blocks.xlsx

6 conditions, with 1 parameters [blockInstructions]

Help OK Cancel

Flow

tionSpecific

instructionsSpecific2

blank2s (2.00s)

standard (3.00s)

trial

yourResponseScreen (1.00s)

trialsNoFeedback

Block

instructionAccuracy

blockSelector

Blocks

blocks • Uloženo: ten...

Soubor Dom Vlože Rozl Vzori Data Reviz Zobr Autoi Vývo Nápc

Schránka Písmo Zarovnání Číslo Podmíněné formátování Formátovat jako tabulku Styly buňky

A2 : X ✓ fx

Block 1 is about to start. Press SPACEBAR to proceed.

1 blockInstructions

2 Block 1 is about to start. Press SPACEBAR to proceed.

3 Block 2 is about to start. Press SPACEBAR to proceed.

4 Block 3 is about to start. Press SPACEBAR to proceed.

5 Block 4 is about to start. Press SPACEBAR to proceed.

6 Block 5 is about to start. Press SPACEBAR to proceed.

7 Block 6 is about to start. Press SPACEBAR to proceed.

8

9

10

11

12

13

List1

Připraven Počet: 6

100%

# Loops – between factor

The image shows a software interface with two main parts. The top part is a dialog box titled 'instructionStress Properties'. It has a 'Name' field with 'instructionStress', a 'loopType' dropdown set to 'sequential', an unchecked 'Is trials' checkbox, an 'nReps' field with '\$ stress', a 'Selected rows' field, a 'random seed' field with '\$', and a 'Conditions' field. There are 'Help', 'OK', and 'Cancel' buttons at the bottom. The bottom part is a flowchart diagram. It starts with a blue box 'blockStart', followed by a blue box 'instructionSpecific', then a grey box 'instructionStress' (circled in orange), then a blue box 'instructionsSpecific2', then a grey box 'instructionAccuracy', then a green box 'blank2s (2.00s)', and finally a grey box 'Blocks'. A 'blockSelector' box is at the bottom. Arrows connect the boxes in sequence, with a loop arrow from 'instructionStress' back to 'instructionSpecific'.

'stress' is a random between factor set in the first routine called randomizer. See slides 'Between factor'

# Loops – within factor II

1x EACH

time\_gen00\_A.psyexp - PsychoPy Builder (v2023.1.2)

File Edit View Tools Experiment Demos Pavlovia.org Window Help

Routines

blank2s blank500 **blockStart**

Block Properties

Name: Block

loopType: random

trials: ☒

nReps: \$ 1

selected rows:

random seed: \$

Conditions: \$version

Conditions file set from variable.

Help OK Cancel

textBlockStart

key\_re...kStart

D12

	A	B	C	D	E
1	duration	corrAns	feedback	noFeedback	
2	0.4 n		1	0	
3	0.6 n		1	0	
4	0.8 n		1	0	
5	1 b		1	0	
6	1 b		1	0	
7	1 b		1	0	
8	1 b		1	0	
9	1.2 n		1	0	
10	1.4 n		1	0	
11	1.6 n		1	0	
12					
13					

	A	B	C	D	E
1	duration	corrAns	feedback	noFeedback	
2	0.4 n		0	1	
3	0.6 n		0	1	
4	0.8 n		0	1	
5	1 b		0	1	
6	1 b		0	1	
7	1 b		0	1	
8	1 b		0	1	
9	1.2 n		0	1	
10	1.4 n		0	1	
11	1.6 n		0	1	
12					
13					

Flow

instructionsSpecific2

blank2s (2.00s)

standard (3.00s)

trial

yourResponseScreen (1.00s)

feedback (1.00s)

Goodbye (2.00s)

instructionAccuracy

trialsNoFeedback

trialsFeedback

Block

blockSelector

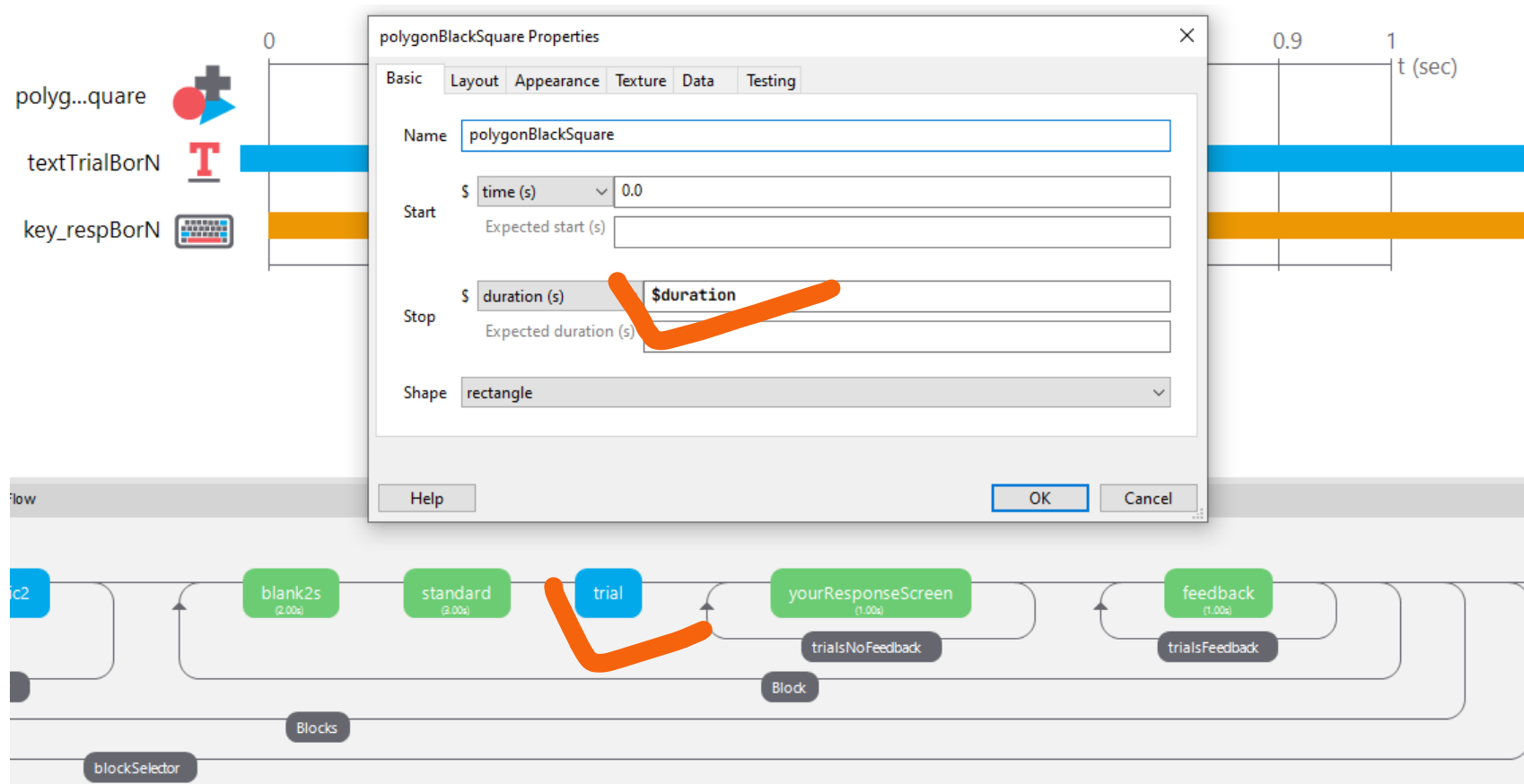
Blocks

# Loops – within factor III

The screenshot shows the 'trialsNoFeedback Properties' dialog box. The 'Name' field is 'trialsNoFeedback', 'loopType' is 'sequential', and 'Is trials' is unchecked. The 'nReps' field contains '\$ noFeedback', which is highlighted with an orange checkmark. The 'Selected rows' and 'random seed' fields are empty. The 'Conditions' field is also empty. Below the dialog box, a timeline diagram shows a sequence of blocks: 'blank2s' (2.00s), 'standard' (3.00s), 'trial' (blue), 'yourResponseScreen' (1.00s), and 'feedback' (1.00s). A 'Block' label is positioned below the 'yourResponseScreen' and 'feedback' blocks, with an orange checkmark pointing to it.

The screenshot shows the 'trialsFeedback Properties' dialog box. The 'Name' field is 'trialsFeedback', 'loopType' is 'sequential', and 'Is trials' is unchecked. The 'nReps' field contains '\$ feedback', which is highlighted with an orange checkmark. The 'Selected rows' and 'random seed' fields are empty. The 'Conditions' field is also empty. Below the dialog box, a timeline diagram shows a sequence of blocks: 'blank2s' (2.00s), 'standard' (3.00s), 'trial' (blue), 'yourResponseScreen' (1.00s), and 'feedback' (1.00s). A 'Block' label is positioned below the 'yourResponseScreen' and 'feedback' blocks, with an orange checkmark pointing to it.

# Trial



‘duration’ (the list of durations of the target stimulus) is listed in xlsx file set via loops Block and blockSelector (see slides Loops – within factor I and II)