Errata list for the doctoral thesis titled:
Seeing the parts, understanding the whole A technology education perspective on teaching and learning in processes of analysing and designing programmed technological solutions
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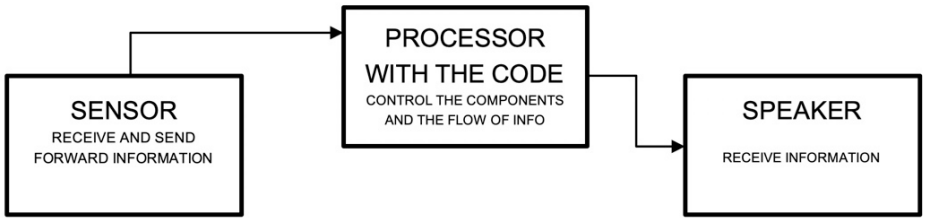
In the text, the control function in the burglar alarm is described in terms of an open loop, i.e. the sensor feeds information to the processor and a process is started. However, this has incorrectly been translated into, and called feedback control. Therefore, in order to not confuse the reader, corrections have been made where the terms feedback or feedback control is used (essentially replaced by the term control function). The corrections have no impact on the analysis or the results presented in the thesis.

Page 33, Figure 3 Model of a PTS, the burglar alarm
The figure is incorrect. Instead it should read:



Page 33, last paragraph, line 1
The first two sentences in the paragraph is incorrect. Instead it should read: "The model illustrates a control function where a signal (information) is sent from a sensor to the processor, and a process is started."

Page 72, last paragraph, line 9-12
The sentence is incorrect. Instead it should read: "The aspects that are critical to discern concerning the dual nature of PTS are: the logic in the code in terms of a control function, how the components work and how they can be organised, the interaction between the code and the components based on the control function and how this generates a flow of information that controls the function of the PTS."

Page 73, in Table 1, column "PTS Structure and function", first cell
The term "feedback control" is incorrect. Instead it should read: "control function"

Page 73, the list
The first bullet point is incorrect. Instead it should read: "Knowledge of ways to control PTS"

Page 81, Table 2, column "Category", cell 3
The term "The feedback system approach" is incorrect. Instead it should read "The system approach".

Page 81, Table 2, column "Logic", cell 3
The term "feedback control" is incorrect. Instead it should read: "a control function".

Page 81, Table 2, column "Function", cell 3
The sentence is incorrect. Instead it should read: "Discern a flow of information that controls the function in the PTS, that is generated by the interaction between the code and the components"

Page 81, first paragraph, line 10-13
The sentence is incorrect. Instead it should read: "That is, there are pupils who in the same context are able to approach the structure and function of the PTS in a more powerful way."

Page 84, first paragraph, line 15-18
The sentence is incorrect. Instead it should read: "According to the critical aspects identified in Paper 2, this involves knowledge of what components to use based on knowledge of how they work, as well as knowledge of how to organise the components in relation to a code."

Page 85, in Table 4, column "Everyday context", first cell
The term "feedback control" is incorrect. Instead it should read: "control function"

Page 86, first paragraph, line 5-9
The sentence is incorrect. Instead it should read: "To be able to produce the PTS, the pupils need to make a fit between discerned aspects of the dual nature of PTS and discerned aspects of the BBC micro:bit material which represent the PTS, e.g. what the blocks represent in terms of real-world conditions and how to combine them into a control function."

Page 89, second paragraph, line 8-12
The sentence is incorrect. Instead it should read: "This can be seen in Table 2 in the last category, where pupils are able to describe the purpose of using specific components, and how these can be organised, as well as how these interact based on a code to generate a flow of information that controls the function in the PTS."

Page 90, the first list
The first bullet point is incorrect. Instead it should read: "Knowledge of ways to control PTS"

Page 95, last paragraph, line 7-11
The sentence is incorrect. Instead it should read: "This knowledge is related to aspects of the dual nature of PTS such as, for example, knowledge of ways to control PTS, knowledge of components, and knowledge of the interaction between the code and the components that generates a flow of information."

Page 99, first paragraph, line 1
The term "feedback control" is incorrect. Instead it should read: "a control function".

Page 103, first paragraph, line 6-9
The sentence is incorrect. Instead it should read: "The name badge uses a control function which is easier for pupils to conceptualise. The burglar alarm, however, uses a control function which is much more difficult to conceptualise in terms of code."

Page 103, first paragraph, line 14-18
The sentence is incorrect. Instead it should read: "In other words, if pupils are expected to design PTS based on this kind of control functions, they need to learn what the control functions implies in terms of functional and structural aspects of PTS in the real-world context, and be able to put it in relation to, for example, a conditional statement."

Sidan 124, I Tabell 5, kolumn "PTS Struktur och funktion, första cellen
Ordet "feedbackstyrning" är inkorrekt. Istället ska det stå "styrfunktion".

Sidan 128, första listan
Första punkten är inkorrekt. Istället ska det stå: "Kunskap om sätt att styra PTS".

In Paper 2 and Paper 3, the same errors occur as in the thesis frame regarding the terms "feedback" and "feedback control", which instead, essentially, should be read: "control function", or as specified below:

Paper 2, Page 1, Abstract, line 11-13
The sentence is incorrect. Instead it should read: "The findings indicated that the pupils needed to understand what components to use based on their function and how to organise these components so they interacted with a code."

Paper 2, Page 10, the list, no 3, and Page 14, Table 1, column "Category", cell 3
The term "The feedback system approach" is incorrect. Instead it should read "The system approach".

Paper 2, Page 10, first paragraph, line 5-7
The sentence is incorrect. Instead it should read: "In the system approach, the pupils discern the PTS as a system based on structural parts such as the use of specific components, how these interact based on the control function,…."

Paper 2, Page 11, first paragraph, line 7, and Page 12, second paragraph, line 7
The term "feedback control/feedback" is incorrect. Instead it should read: "the code".

Paper 2, Page 12, heading
The term "The feedback system approach" is incorrect. Instead it should read "The system approach".

Paper 2, Page 12, first paragraph, line 1
The term "The feedback system approach" is incorrect. Instead it should read " The system approach".

Paper 2, Page 14, Table 1, column "Function", cell 3
The sentence is incorrect. Instead it should read: "Discern a flow of information that controls the function in the PTS, that is generated by the interaction between the code and the components".

Paper 2, Page 24, third paragraph, line 8
The term "feedback control" is incorrect. Instead it should read: "the logic in the code in terms of a control function".

Paper 2, Page 24, third paragraph, line 9-10
The sentence is incorrect. Instead it should read: "Although the pupils had an idea of a control function,…"

Paper 3, Page 10, second paragraph, line 5
The sentence is incorrect. Instead it should read: "In the excerpt below, the pupils try to find and combine blocks into a control function."

Paper 3, Page 15, second paragraph, line 7-8
The sentence is incorrect. Instead it should read: "…the pupils are now able to combine blocks into a control function,…"

Paper 3, Page 16-19, Table 1-7, column "The dual nature of the PTS", cell 1

The term "feedback control" is incorrect. Instead it should read: "The logic in the code".

Paper 3, Page 16, Table 1, table text, first paragraph, line 2
The sentence is incorrect. Instead it should read: "… and they identify the need for a control function."

Paper 3, Page 16, Table 2, table text, last paragraph, line 2
The sentence is incorrect. Instead it should read: "Even if they have discerned the need for a control function in the PTS,…"

Paper 3, Page 17, Table 4, table text, first paragraph, line 4
The sentence is incorrect. Instead it should read: "They have identified the need for a control function, and provide a…"

Paper 3, Page 18, Table 5, table text, first paragraph, line 2
The sentence is incorrect. Instead it should read: "They plan for a control function but there is no discussion…"

Paper 3, Page 19, Table 7, table text, first paragraph, line 2
The sentence is incorrect. Instead it should read: "Their discussion indicates that they have discerned the need for a control function in relation to the intended solution."

Paper 3, Page 19, Table 7, table text, last paragraph, line 3
The sentence is incorrect. Instead it should read: "However, the final control function is not based on their intended idea,…"

Paper 3, Page 19, last paragraph, line 4-5
The sentence is incorrect. Instead it should read: "All of the pupils come up with an idea for a control function in their intended PTS. In order to implement the control function,…"

Paper 3, Page 20, first paragraph, line 7
The sentence is incorrect. Instead it should read: "How the process unfolds is dependent on whether pupils have a cohesive understanding of the dual nature of the PTS in relation to the analysed real-world context."

Paper 3, Page 21, last paragraph, line 4
The term "based on feedback" is incorrect. Instead it should read: "in terms of a code".

Paper 3, Page 21, last paragraph, line 11
The term "feedback control" is incorrect. Instead it should read: "the logic in the code".

Paper 3, Page 21, last paragraph, line 17
The term "feedback" is incorrect. Instead it should read: "a conditional statement".

Paper 3, Page 20, Fig. 11
The figure is incorrect. Instead it should read: