**Update 1st May 2014.**  Changes are in orange.

**The analysis of responses for *all tries***

Jamie and I had an exchange in January 2014 about what to do if a student gave the same response to all tries at a question.

Jamie suggested that “We want a break down of all the responses given, possibly excepting where a response for one part is repeated, then we only want to count it once.”

I agreed.

And that is what Jamie has provided but with a little variation that we need to iron out.

But I’m wondering if we been a little too clever and what we have done will only confuse users. After further analysis I’ve come to the view that we have been too clever. I’d like us to review this together.

Below are 8 tables for four questions that mark numeric answers.

The first 4 are what we would normally expect with incorrect answers being changed. I think you will agree that the tables are fine.

But what about the second 4 where the student repeatedly gives the same wrong answer?

Firstly ‘numerical’ (Table 5) records the repeated wrong answer under try 3 whereas the other three questions count it under try 1. Clearly we have to fix this. But is either of these solutions the right one. The third alternative is to count the incorrect answer in every try. And it is the thirst alternative that I would like to see. Please note that this only affects ‘interactive with multiple tries’ behaviour.

What do you think?

Phil

Q1 Numerical

Q2 variable numeric

Q3 Variable numeric sets

Q5 Variable numeric sets with units

**Different responses given at try 1, 2 & 3**

User 1 answered 100, 200, 300 at the three tries.

User 2 answered 1000, 2000, 3000 at the three tries

Table 1

Q1 try 1 try2 try3

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| \* | 100 | 0.00% | 1 | 0 | 0 | 50.00% |
|  | 200 | 0.00% | 0 | 1 | 0 | 50.00% |
|  | 300 | 0.00% | 0 | 0 | 1 | 50.00% |
|  | 1000 | 0.00% | 1 | 0 | 0 | 50.00% |
|  | 2000 | 0.00% | 0 | 1 | 0 | 50.00% |
|  | 3000 | 0.00% | 0 | 0 | 1 | 50.00% |

Table 2

Q2.104197

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| \* | 1000 | 0.00% | 1 | 0 | 0 | 100.00% |
|  | 2000 | 0.00% | 0 | 1 | 0 | 100.00% |
|  | 3000 | 0.00% | 0 | 0 | 1 | 100.00% |

Table 3

Q3.3

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| \* | 100 | 0.00% | 1 | 0 | 0 | 100.00% |
|  | 200 | 0.00% | 0 | 1 | 0 | 100.00% |
|  | 300 | 0.00% | 0 | 0 | 1 | 100.00% |

Table 4

Q5.3

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | \* | 1000 | 0.00% | 1 | 0 | 0 | 100.00% |
|  |  | 2000 | 0.00% | 0 | 1 | 0 | 100.00% |
|  |  | 3000 | 0.00% | 0 | 0 | 1 | 100.00% |

**Same responses given at try 1, 2 & 3**

User 1 answered 100, 100, 100 at the three tries.

User 2 answered 1000, 1000, 1000 at the three tries

Table 5

Q1 try1 try2 try3

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| \* | 100 | 0.00% | 0 | 0 | 1 | 50.00% |
|  | 1000 | 0.00% | 0 | 0 | 1 | 50.00% |

In future this should show as

Q1 try1 try2 try3

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| \* | 100 | 0.00% | 1 | 1 | 1 | 50.00% |
|  | 1000 | 0.00% | 1 | 1 | 1 | 50.00% |

Table 6

Q2.311000

| **Model response** | **Actual response** | **Partial credit** | **Count Try 1** | **Frequency** |
| --- | --- | --- | --- | --- |
| 1.0e9 |  | 100.00% | 0 | 0.00% |
| B |  | 0.00% | 0 | 0.00% |
| \* | 100 | 0.00% | 1 | 100.00% |

In future this should show as

| **Model response** | **Actual response** | **Partial credit** | **try1 try2 try3** | **Frequency** |
| --- | --- | --- | --- | --- |
| 1.0e9 |  | 100.00% | 0 0 0 | 0.00% |
| B |  | 0.00% | 0 0 0 | 0.00% |
| \* | 100 | 0.00% | 1 1 1 | 100.00% |

Table 7

Q3.1

| **Model response** | **Actual response** | **Partial credit** | **Count Try 1** | **Frequency** |
| --- | --- | --- | --- | --- |
| C |  | 100.00% | 0 | 0.00% |
| -c |  | 0.00% | 0 | 0.00% |
| D |  | 0.00% | 0 | 0.00% |
| E |  | 0.00% | 0 | 0.00% |
| F |  | 0.00% | 0 | 0.00% |
| \* | 1000 | 0.00% | 1 | 100.00% |

In future this should show as

| **Model response** | **Actual response** | **Partial credit** | **try1 try2 try3** | **Frequency** |
| --- | --- | --- | --- | --- |
| C |  | 100.00% | 0 0 0 | 0.00% |
| -c |  | 0.00% | 0 0 0 | 0.00% |
| D |  | 0.00% | 0 0 0 | 0.00% |
| E |  | 0.00% | 0 0 0 | 0.00% |
| F |  | 0.00% | 0 0 0 | 0.00% |
| \* | 1000 | 0.00% | 1 1 1 | 100.00% |

Table 8

Q5.2

| **Part of question** | **Model response** | **Actual response** | **Partial credit** | **Count Try 1** | **Frequency** |
| --- | --- | --- | --- | --- | --- |
| unitpart | match(g) |  | 100.00% | 0 | 0.00% |
|  | \* | 0 | 0.00% | 1 | 100.00% |
|  | [No response] |  | 0.00% | 0 | 0.00% |
| numericpart | precipitate |  | 100.00% | 0 | 0.00% |
|  | \* | 1000 | 0.00% | 1 | 100.00% |

In future this should show as

| **Part of question** | **Model response** | **Actual response** | **Partial credit** | **t1 t2 t3** | **Frequency** |
| --- | --- | --- | --- | --- | --- |
| unitpart | match(g) |  | 100.00% | 0 0 0 | 0.00% |
|  | \* | 0 | 0.00% | 1 1 1 | 100.00% |
|  | [No response] |  | 0.00% | 0 0 0 | 0.00% |
| numericpart | precipitate |  | 100.00% | 0 0 0 | 0.00% |
|  | \* | 1000 | 0.00% | 1 1 1 | 100.00% |