Excello CDNs

Activities

- Exploration - manipulating information or structure
- Modification - change structure only
- Transcription - from one notation to another
- Incrementation - adding one more
- Reading - seeking information

CDNs

- Role Expressiveness - How much elements suggest their purpose [ROLE]
- Consistency - Similar meanings, similar syntax [CONS]
- Premature Commitment - Constraints on order of decisions [PREM]
- Viscosity - Resistance to change [VISC]
- Diffuseness - The spread-out-ness of information [DIFF]
- Useful Awkwardness - Thinking hard is sometimes useful [UAWK]
- Abstraction - Mechanisms for generality [ABST]
- Synopsie - Provides an understanding of the whole [SYNO]
- Hidden Dependencies - Unexpected relationships [HIDD]
- Hard Mental Operations - Some things are just hard [HMOS]
- Provisionality - Degree of commitment to marks [PROV]
- Legibility - Readability of the notation [LEGI]
- Closeness of Mapping - Correspondence to the domain being expressed [CLOS]
- Progressive Evaluation - Feedback along the way [PROG]
- Secondary Notation - Escape from formality [SECN]
- Juxtaposition - Simultaneous comparison [VIJU]
- Error Proneness? [ERRP]

Dimension	Exploration	Modification	Transcription	Incrementation	Reading
ROLE	Custom functions + Excel editor saying arguments helps Depends on turtle familiarity. Movement instructions could be unclear. Chord part very factual.	Manipulation is easy Should be easy to tell where notes and turtles are	Very little to the notation so with the examples you have all you need. Dynamic number not obvious	Layout of grid already suggests it's simply adding more Exactly the same format used	Excel Highlighting helps show things are part of scheme. Multinotes could be interpreted to mean chord or note lengths stay the same.
CONS	I removed start and end cell notation. Dynamics always in cell.	Same repetition is used for blocks (...)n as for individual instructions m3.	Different dynamics can be used 0.6 vs mf. They go in exactly the same place. Speed can currently be low and high		Excel Turtles can miss arguments and cells dynamics but meaning the same.
PREM	Can run turtles without all the notes and place notes without turtles. Easy to (de)activate turtles.	Inserting new lines easily facilitated, would be inconvenient for many lines. Adding lines for markup is easy. Undo stack is broken. May have to decide number of parts.	Grid is very flexible with where notes go Order of turtles and notes doesn't matter. Dynamics can be done anytime.	Function ranges easily extended Can easily add to turtle range	
VISC	Cells easily changed and moved Notes easily changed	Modifying layout can require multiple operations Changing individual notes / turtle instructions is easy. Toggling turtles. Transposing now easier.	Keeping octave and dynamics context makes it much easier to change octaves and write out melodic lines faster.	Easy to add new functions Easy to add extra functions. m* makes adding notes easier. If notes layout is changed, turtle instruction must be also	
DIFF	May be hard to see correspondence between notes and turtles	Cells easily changed and moved Turtles and notes must both be modified and they may not be close.	Double click allows columns to be the ideal width Tradeoff between how concise the cell and the turtle notations are. e.g. clapping music. Brackets can reduce the space needed to describe.		Volume now with the notes it's associated with.
ABST	Cells can accomodate all types of musical notation Turtles handle different elements in the same way.	Notes easily changed. Multinote cells have the same types of notes/sustains/rests	Abstraction of spreadsheets is lacking Multiple turtles can be defined with the range notation. Don't have to start by defining new terms.		Bracket notation allows ideas to be expressed more concisely.
	Excel already has large				

HIDD	hidden depencies but with trackers Reference to start cell, instructions, speed and loops can be defined elsewhere.	Responsible for high error frequency One way pointer of turtle to notes. Required due to many-to-many relation of notes and turtles.	Dynamic and octave could be dependent on a previous cell. Don't know turtle paths so may not know. Intrinsically unavoidable. Many-to-many.	Have to track a turtles path to figure out which notes. This allows for separation though. This relation is known though.	Brown and Gould (1987)
HMOS		Figuring out which notes are in a chord is streamlined. Transposing.	Main challenge was clouting number of cells to move.		Unwrapping nested instructions could be hard. But may make easier.
PROV	Entire areas of spreadsheet easily removed and edited Don't require a full track to play, can easily "what-if"	Can easily copy and try something new New turtles easily defined and others muted. Chords can quickly be added to pad.	Can markup where different things are defined New turtles easily defined and others muted	Can update turtle path but define exact notes later.	
CLOS	Notes are just an existing notation. Turtle instructions map exactly to how it moves. Very close	Dynamics may be slightly arbitrary.	Absolute tempo more closely mapping existing notation than being relative to 160cpm.		Contextual clues loses Closeness a little
PROG	Play button now lights up so you know it's been registered.	Can test individual areas	By using markup you can see how much of the space you have filled Turtles can be played before everything has been transcribed to check progress. m* allows easy checking.	Notes are highlighted giving feedback they're noted.	
SECN Big	Parts can be grouped Notes and turtles are coloured.	Single parts can be split over different lines, have gaps etc. Grouping of chord and turtle part of side menu.	Parts can be grouped and layed out as the user wishes. Time is abstracted away so any cell can be used for anything.		Arbitrary labelling can be added. Different formatting can be used - underlines, text, shading.
VIJU		Previously was hard to see what dynamics corresponded to what note.	Visability highly dependent on layout user chooses		Large number of cells can be viewed concurrently Can view live turtles in menu an by shaded cells.
LEGI		Visability highly dependent on layout user chooses Turtle instruction can sometimes be a little hard to parse. But are			

		space separated.			
UAWK					
SYNO			Can markup	Existing grid structure means for a lot of cases the direction can be inferred Colouring makes it easier to see where notes and turtles are	Overall can be good if user uses a good layout
ERRP		Won't highlight if not parsed as a note	Mistakes were usually getting the octave wrong.		

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