A common framework of representation

Teacher’s ideas

Adapt Task practice environment

Practice environment

Concepts

Answers

Learner’s ideas

Adapt actions

Learner’s practice

Reflect

Task goal

Actions

‘Instructivist’ - Teacher-focused
A common framework of representation

Teacher’s ideas

Adapt Task practice environment

Practice environment

Learner’s ideas

Adapt actions

Learner’s practice

Concepts

Answers

Task goal

Feedback

Actions

Revisions

‘Constructionist’ - Practice-focused
A common framework of representation

Teacher’s ideas → Adapt Task practice environment → Practice environment

Teacher’s ideas → Adapt Task practice environment → Practice environment

Practice environment → Learner’s practice → Learner’s ideas

Learner’s ideas → Adapt actions → Task goal

Task goal → Feedback → Revisions

Revisions → Actions

Actions → Learner’s practice → Learner’s ideas

Learner’s ideas → Adapt actions → Task goal

Task goal → Feedback → Revisions

Revisions → Actions

‘Constructionist’ - Practice-focused
A common framework of representation

Teacher’s ideas

Learner’s ideas

Other learner(s)

Practice environment

Learner’s practice

Others’ practice

‘Social constructivist’ - Learner-focused
A common framework of representation

Teacher’s ideas

Adapt Task practice environment

Practice environment

Learner’s ideas

Adapt actions

Learner’s practice

Reflect

Draft outputs

Others’ practice

Draft outputs

Other learner(s)

Adapt actions

Ideas

Ideas

Ideas

‘Collaborative learning’
What does it take to learn? - A Conversational Framework

Instructivism + Constructionism + Social constructivist + Collaborative
The Conversational Framework

An attempt to draw on the learning theories developed over the last century, and encapsulate them in a form that enables educators to test conventional and digital methods against them

(Dewey, Piaget, Vygostsky, Bruner, Papert, Pask, Anderson, Marton, Biggs, Brown, Lave, Wenger, Engestrom...)
Testing the value of conventional and digital forms of learning against the Conversational Framework
Learning through attention...

Teacher’s ideas → Practice environment → Adapt Task practice environment → Teacher’s ideas

Learner’s ideas → Adapt actions → Learner’s practice → Reflect → Revisions → Learner’s ideas

Other learner(s) → Adapt actions → Other learner(s) → Reflect → Draft outputs → Other learner(s)

Concepts → Ideas → Other learner(s) → Adapt actions

Questions Outputs → Draft outputs

Task goal Feedback → Draft outputs

Actions Revisions → Draft outputs

Powerpoint, Digital video, Animation, Podcast...
Learning through *inquiry*...

- **Teacher’s ideas**
  - Adapt Task practice environment
  - Reflect
  - Task goal Feedback
  - Actions Revisions

- **Learner’s ideas**
  - Adapt actions
  - Reflect
  - Feedback
  - Draft outputs

- **Other learner(s)**
  - Adapt actions
  - Reflect
  - Draft outputs

- **Practice environment**
  - Concepts
  - Questions

- **Ideas**
  - Reflect
  - Other learner(s)

Online resource, Digital library, Website, Search engine...
Learning through discussion...

Teacher’s ideas
Adapt Task practice environment
Practice environment

Learner’s ideas
Adapt actions
Learner’s practice

Other learner(s)
Adapt actions

Concepts Answers
Questions Outputs

Ideas

Task goal Feedback
Actions Revisions

Outputs

Draft outputs

Reflect

Revisions

Draft outputs

Online conferencing, Forum, Chat room, Wiki...
Learning through practice...

Teacher’s ideas
- Adapt Task practice environment
- Reflect
- Task goal
- Feedback
- Actions
- Revisions
- Practice environment
- Outputs
- Answers

Learner’s ideas
- Adapt actions
- Reflect
- Draft outputs
- Other learner(s)
- Ideas
- Ideas
- Draft outputs
- Other learner(s)

Other learner(s)
- Adapt actions
- Reflect
- Draft outputs
- Other learner(s)
- Ideas
- Ideas

Interactive simulation, Spreadsheet, Data analysis tool, Game...
Learning through collaboration...

Teacher’s ideas

Practice environment

Adapt Task practice environment

Adapt Task goal

Feedback

Concepts Answers

Questions Outputs

Adapt actions

Draft outputs

Reflect

Task goal

Feedback

Adapt Actions

Revise

Outputs

Learner’s ideas

Adapt actions

Revise

Outputs

Other learner(s)

Adapt actions

Revise

Outputs

Other learner(s)

Computer-Supported Collaborative Learning, Multiplayer games...
Learning through production...

- Teacher’s ideas
  - Adapt Task practice environment
  - Practice environment
  - Adapt Task practice environment

- Learner’s ideas
  - Outputs
  - Adapt actions
  - Reflect
  - Task goal
  - Feedback
  - Actions
  - Revisions
  - Learner’s practice

- Other learner(s)
  - Ideas
  - Adapt actions
  - Reflect
  - Draft outputs
  - Other learner(s)

- Concepts
- Ideas
- Reflect
- Draft outputs

Powerpoint, Program, Model, Website, Design, Digital video...
The Conversational Framework – Represented as checklist

The Conversational Framework poses the following questions to the learning activities planned for a learning session.

How does your pattern of learning activities motivate students to:

1. access explanations and presentations of the theory, ideas or concepts?
2. ask questions about their understanding of the theory, etc, by providing the opportunity for answers from (i) the teacher, or (ii) their peers?
3. offer their own ideas and conceptual understanding, by providing comment on them from (i) the teacher, or (ii) their peers?
4. use their theoretical understanding to achieve a clear task goal by adapting their actions in the light of their understanding, or in response to comments or feedback?
5. repeat practice, by providing feedback on actions that enables them to improve performance?
6. repeat practice, by enabling them to share their trial actions with peers, for comparison and comment?
7. reflect on the experience of the goal-action-feedback cycle, by offering repeated practice at achieving the task goal?
8. discuss and debate their ideas with other learners?
9. reflect on their experience, by having to articulate or produce their ideas, reports, designs, performances, etc. for presentation to their peers?
10. reflect on their experience, by having to articulate or produce their ideas, reports, designs, performances, etc. for presentation to their teachers?
Learning is relational—depends on others and on artefacts (Nersessian).

The Conversational Framework – as model of learning activity

<table>
<thead>
<tr>
<th>Teaching method</th>
<th>TIME</th>
<th>Attention</th>
<th>Discussion</th>
<th>Production</th>
<th>Group</th>
</tr>
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<tbody>
<tr>
<td>Lectures</td>
<td>60</td>
<td>30</td>
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<td>15</td>
<td>35</td>
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</tr>
</tbody>
</table>

Total: 300 | 128 | 27 | 89 | 36 | 20 |
Target: 300 | 173 | 33 | 24 | 45 | 25 |
“the best predictor of quality of output is the number of iterations” (Wiliam, 2008)
Concluding points

To exploit the potential of digital technologies for teaching, we need a tool to foster adaptive, collaborative learning among academics to *learn about teaching with technology*.

The idea of the LDSE is to
- put teachers at the centre of pedagogical and technological innovation
- support teachers in developing and sharing new pedagogical strategies
- offer both analytical and conceptual modelling at each level of design
- help shift teaching towards being a ‘science of learning design’
- as a personal, reflective journey and a collaborative professional activity