

## 4D Learning: a pedagogical planning framework for future focused education

Phase	Involves	Activity	UDL Principles (e.g.)	Digital Tools (e.g.)
DISCOVER	Any activity where the objective is to access and engage with existing knowledge – includes research, explicit teaching, lectures, reading, inquiry etc.	Identifying, knowing, labelling, listing, naming, outlining, recalling, selecting, recognizing, comprehending, generalizing, inferring, interpreting, paraphrasing, predicting, summarizing, translating, discovering, inquiring.	<p><i>Representation:</i></p> <p>Provide alternative representations for clarity and comprehensibility</p> <p><i>Engagement:</i></p> <p>Same goal, different ways to engage student interest, optimize choice and autonomy, minimize threats and distractions...</p>	<ul style="list-style-type: none"> <li>▪ Search engines</li> <li>▪ Online encyclopaedias</li> <li>▪ YouTube</li> <li>▪ E-Books</li> <li>▪ Video/audio interviews</li> <li>▪ LMS for course notes</li> <li>▪ GIS software</li> </ul>
DESIGN	Any activity that results in the development of new knowledge, including writing, problem-solving, composing, building, drawing, video editing, etc.	Applying, computing, constructing, manipulating, composing, creating, designing, explaining, generating, modifying, organizing, summarizing, writing, analyzing, diagramming, distinguishes, identifies, illustrating, inferring	<p><i>Action and expression:</i></p> <p>Help learners develop deliberate strategies for learning, foster collaboration and communication, use multiple tools for construction and composition</p> <p><i>Representation:</i></p> <p>Help learners develop ways to transform information into useable knowledge</p>	<ul style="list-style-type: none"> <li>▪ Word processing</li> <li>▪ Spreadsheets</li> <li>▪ Video editing software</li> <li>▪ Presentation programs</li> <li>▪ Music composition programs</li> <li>▪ Graphics software</li> <li>▪ Publishing software</li> <li>▪ 3D modelling (e.g. Sketchup)</li> <li>▪ Game creation (e.g. Scratch)</li> <li>▪ Mind-mapping applications</li> </ul>
DISPLAY	Any activity that involves the sharing of knowledge, including presenting, publishing, conferencing etc.	Demonstrating summarizing, defending, describing supporting, relating, explaining, interpreting, explaining	<p><i>Expression:</i></p> <p>Provide learners with different ways to express what they know</p> <p><i>Representation:</i></p> <p>Help learners develop ways to communicate information as useable knowledge</p>	<ul style="list-style-type: none"> <li>▪ Blogs</li> <li>▪ Wikis</li> <li>▪ Email</li> <li>▪ Facebook</li> <li>▪ Discussion forums</li> <li>▪ Video conferencing/Skype</li> <li>▪ YouTube</li> <li>▪ Slideshare</li> </ul>
DATA (CHECK)	All forms of activities that involve making a judgment about what learning is occurring, includes diagnostic, formative and summative practices. Focus on assessment <b>as</b> learning.	Appraising, comparing, concluding, contrasting, criticizing, critiquing, discriminating, evaluating, justifying,	<p><i>Engagement:</i></p> <p>Help learners develop intrinsic abilities to self regulate, vary demands to optimize challenge, develop self-assessment and reflection...</p>	<ul style="list-style-type: none"> <li>▪ Online quizzes</li> <li>▪ e-asTTle</li> <li>▪ e-Portfolios</li> <li>▪ Parent portal</li> <li>▪ Intelligent systems</li> <li>▪ SMS</li> <li>▪ Rubrics</li> </ul>

Source: Derek Wenmoth; CORE Education Ltd.