<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Decade</th>
<th>Theory</th>
<th>Key concepts</th>
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<tbody>
<tr>
<td>(Connectionism)²</td>
<td>1880 - 1900</td>
<td><strong>Connectionism</strong> (Thorndike)</td>
<td>- learning is incremental strengthening of the S-R association&lt;br&gt;- S-R associations are strengthened through repetition&lt;br&gt;- outcome of a S-R event can strengthen or weaken the connection&lt;br&gt;- potential to learn leads to frustration if not satisfied</td>
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<tr>
<td>Behaviorism</td>
<td>1900 - 1910</td>
<td><strong>Classical conditioning</strong> (Pavlov)</td>
<td>- learning is a visible change in one's behavior&lt;br&gt;- learning is manifested in a natural reflex reaction on an associated environmental stimulus&lt;br&gt;- emotional response can also be learned or conditioned</td>
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<td>1920 - 1930</td>
<td><strong>Contiguity theory</strong> (Guthrie)</td>
<td>- behavior is formed by a series of movements which are learned through S-R associations&lt;br&gt;- a close temporal relationship between S and R is necessary for learning to occur&lt;br&gt;- learning occurs on first experienced instance of the stimulus&lt;br&gt;- reinforcements (reward or punishment) do not influence the strength of this connection</td>
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| Neo-behaviorism | 1930 - 1940  | Sign learning (Tolman)     | - suggests studying behavior on the molar level (whole, purposeful, goal-directed behaviors)  
- learning is acquisition of knowledge through **meaningful behavior**, not mechanical moves  
- rewards or punishments can only be used as motivators for performance, not learning  
- animals are not simple mechanisms, but intelligent organisms capable of **cognitive processes** |
|                 |              | Drive reduction theory (Hull) | - **mathematical formulas** attempting to explain behavior and the likelihood of its appearance  
- **drive** (a stimulus in form of a biological need) results in behavior in order to **satisfy** it  
- reinforced S-R learning through the reduction of a biological drive  
- **cognitive factors** need to be taken into account when explaining human learning |
|                 | 1950 - 1960  | Operant conditioning (Skinner) | - **reinforced learning** of new behaviors, not just shaping reflexes  
- different reinforcement intervals have different effect  
- complex behaviors are learned through more simple ones |
|                 |              | Stimulus sampling theory (Estes) | - a **statistical learning theory**; set of formulas and axioms  
- S-R association is learned in a **single trial**; learning results in accumulated S-R associations  
- reinforcement has to do with the performance, not with learning  
- later included **memory** as a factor in his theory |

1) Approximate decade in which the theory was introduced  
2) Connectionism is not considered a learning paradigm, but is mentioned due to its influence on behaviorist ideas  
3) Stimulus-Response