

| Search Stage | Search behaviours indicative of learning, or increasing domain expertise |
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| Query (re)formulation | <ul style="list-style-type: none"> - Increase in the <i>number</i> and <i>specificity</i> of query terms - Increase in number of synonyms - Decrease in number of reformulated queries |
| Search Engine Results Page (SERP) examination <i>(Source Selection)</i> | <ul style="list-style-type: none"> - Increased clarity in relevance criteria = increased ability to distinguish between relevant and non-relevant results - Decrease in the number of search results viewed (supported by Mao et al. (2018), contrasted by White et al. (2009)) - Decrease in the proportion of partially relevant results viewed, and increase in the number of relevant results viewed - Average time for assessing a search result decreases |
| Content Page examination <i>(Interaction with sources)</i> | <ul style="list-style-type: none"> - Increase in the amount of information-use from viewed content pages in the learning outcome artefact (summary, project report, exam answers, etc.) <p><u>Knowledge Assimilation</u>: addition of new information to existing knowledge structure</p> <ul style="list-style-type: none"> - Focus on factual and specific information - Refining output with factual information - Revisiting content pages for information initially overlooked <p><u>Knowledge Restructuring</u>: large changes or replacement of concepts and their relations in knowledge structure</p> <ul style="list-style-type: none"> - Focus on background and conceptual information; notes taken on themes and ideas - Ideas are related and combined for a focus, in the outcome <p><u>Knowledge Tuning</u>: small changes in scope and meaning of concepts and their relations in knowledge structure; no replacements</p> <ul style="list-style-type: none"> - Focus on procedural and specific information - Identification of information to support and refine focus |
| Overall search session | <ul style="list-style-type: none"> - Decreased time per search session - Decrease in variability of search tactics - Increase in the diversity of websites visited within a subject area (increase in the average number of unique top-level websites on a SERP or across clicked documents) - Increase in focus of exploration (e.g., the degree to which a SERP is covered by a single topic) - Search path is more ‘branchy’ – returning to a previously visited point and then following a new unexplored direction) (White et al., 2009) |