Abstract: One major challenge of web based learning systems is that the learner does not only have to acquire knowledge, but must navigate through the system to reach the desired content. One possibility for reducing the additional cognitive load is by providing orientational and navigational aids. The present study investigated the support power of these aids for 40 learners, who had to search for specific information within an educational hypertext system about English grammar, and compared the effects of these aids to a system without them. Despite comparable searching and learning results, groups did differ significantly with respect to their online processing. Learners using the version with combined aid reported less orientational problems afterwards than the other two groups and navigated more efficiently through the system. Indication that processing costs for these aids should balance with their benefits was found for at least small learning systems.