Core Research Area: Interoperability

Efficient usage of novel technological tools, for instance by creating mashups, requires research and developments that improve the interoperability of tools and devices. For example, personalization of learning environments could be facilitated by enabling different learning tools to access and alter a central database of learner characteristics. One important prerequisite to enable interoperability concerns the agreement on a common standard for file formats and protocols (syntactic interoperability). Another important aspect concerns a common information exchange reference model that allows different devices to automatically interpret the exchanged information in meaningful ways (semantic interoperability).

Future research could explore how to define, enforce, and make application profiles that specify contextual requirements without breaking interoperability. Further, it would be worth to identify relevant combinations of technical standards that enable a scalable open learning infrastructure, for example by identifying standards that are still lacking, as well as standards that are no longer relevant. Specific standards for learning technology may by necessary for warranting learning specific requirements or constraints for interoperability.