Active learning in High-School mathematics using Interactive Interfaces

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The key idea in this project is to learn through exploration using a web of user-friendly Highly Interactive Graphical Interfaces (HIGI). The HIGIs, structured as trees of interlinked windows, present concepts using a minimal amount of text while maximizing the possibility of visual and analytic exploration. These interfaces run computer algebra software in the background. Assessment tools are integrated into the learning experience both within the HIGIs and at a general conceptual map, the *Navigator* level. The Navigator offers students self-assessment tools and full access to the logical sequencing of course concepts, helping them to identify any gaps in their knowledge and to launch the corresponding learning interfaces. An interactive online set of HIGIS of this kind can be used at school, at home, in distance education, and both individually and in a group.

References

[1] K. von Bülow, E. S. Cheb-Terrab and D. Teixeira Alves, *Edukanet Interactive mathematical Software*, Adv. Math. *The Lornet 2007 Conference on "User Centered Knowledge Environments: from theory to practice"* (Lornet-2007), Montreal, Canada, (2007).