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Eye-tracking as a tool helping to increase the effectiveness of didactic materials and educational outcomes

BACKGROUND: In the majority of countries education on every stage is still based on analogous information, usually in a form of textbook or coursebook. However, even if it is given to school students or university students in electronic (digital) form, its format very often influences the way information is perceived.

AIM: Although modern textbooks seem to be very well designed, it is crucial to ask the question if their graphics and layout are of any importance in the process of teaching and learning. The answer (which is the aim) can be given by an eye-tracking study.

METHODS: An eye-tracking study was conducted in one of the secondary schools in Warsaw on the group of secondary school students. The material was the exemplary pages from workbook and textbook of English.

RESULTS: It turns out that the location and type of graphic elements influence the size of fixations, and the length, velocity and amplitude of saccades made by the eye. As a consequence, the efficiency of work with the textbook/workbook and the way (scheme) of completing the given task are different.

CONCLUSION: The way the material is presented in the workbook/textbook from the point of view of its location and graphics is important because it is perceived in a different way by different students. There are some tools used in every type of didactic materials that should be applied carefully and wisely because they influence the way students work and perceive information. They are: sets of colours, fonts, illustrations, diagrams, word boxes, decorative elements etc. Proper planning of workbook/textbook page (or any other didactic material) can stimulate the way the material is perceived and is worked with, and, as a consequence, can help the classmates of different capabilities work in their most effective way.