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The Brains of the Future: What we need to know & why we need to care

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The most relevant finding in brain research of the past two decades is neuroplasticity, i.e. that fact that the brain constantly changes its internal connections according to their use. It is a piece of hardware that continuously adjusts to the software (experience) it is running. Developmental neurobiology has identified key processes in brain maturation – from lower brain modules to higher level modules – that happen until the third decade of life. Developmental psychology has shown that developing brains have special needs for coherent multisensory input as well as interactive experience with the real world. Studies show that IQ can be raised by a highly significant amount (about one standard deviation, i.e. 15 points) by providing growing children with the right learning environment. Digital media deprive young children of the real world input they need, with measurable detrimental consequences. Once children have formed basic representations they are able to learn from digital media at school age. Given that they spend considerably more time with media (in the USA on average about 7,5 hours per day, in Germany about 5,5 hours per day) than in school (about 4 hours per day), we must make sure that we provide them with truly educational input instead of teaching them aggression and violence using video-games. Our children are all we have to assure the future of our society.