# 京大過去問　２００２年　第２問

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Until recently, studying music in school was regarded as a luxury. A child's math and language skills or scientific problem solving were considered to deserve the major portion of the curriculum, while music, art, and other related subjects received only passing attention at most. Music teachers faced competing demands from extra lessons, sports practice, and play rehearsals. But with the help of science, this erosion of time devoted to music looks like being halted and even reversed.

According to one scientific study, music raises the learning capacity in so-called "hard" subjects as mathematics and physics in addition to language acquisition, and this should help restore a more balanced curriculum. (1)Researchers, in the paper on music and spatial task performance, reported that listening to as little as ten minutes of Mozart's music produced an elevation in brain power lasting ten to fifteen minutes, a finding that triggered much of the current interest in the positive effect of music on learning.

The observation of the close relationship between music and mathematics stretches back for a couple thousand years. Pythagoras acknowledged the importance of proportion in harmony and melody. Mozart's sudden musical development, too, shows math and music are connected. The musical genius was initially cool towards the profession that would later bring him great fame, leading a happy and not too burdened childhood, learning his lessons, whatever they were, easily and quickly. (2)Then Mozart suddenly exploded with a passion for music, filling every bit of space in the house with scribbled figures after he learned the fundamentals of arithmetic. His passion for music was closely connected to his understanding of mathematics.

Moreover, there are even recent findings that further clarify the linkage. Researchers connected the discovery to a complex theory about the way our minds are organized. (3)In essence, scientists are saying higher mental operations such as music and mathematics use a common, structured, and spatial-temporal language that allows people including children to work across seemingly unrelated academic disciplines that are tied together by this communication link.

The relationship between music and the scientific subjects or language learning is, as a matter of fact, highly controversial. There are some studies that have thrown doubt upon it. In any case, playing music and singing use a wide range of senses. Being able to integrate these and produce a satisfying synthesis is a powerful experience for children, deserving greater appreciation than

has been given thus far. (4)When learning like this happens in chorus or orchestra, the total effect is even more potent. What other school activity cultivates a strong community spirit, helps us learn languages, increases our mathematical and scientific capacity, and puts us in touch with our musical heritage?