Zeitschrift: L'Enseignement Mathématique
Herausgeber: Commission Internationale de l'Enseignement Mathématique
Band: 30 (1984)
Heft: 1-2: L'ENSEIGNEMENT MATHÉMATIQUE

Artikel: THE INFLUENCE OF COMPUTERS AND INFORMATICS ON MATHEMATICS AND ITS TEACHING
Autor: Churchhouse, R. F.
Kapitel: 3.1. The general effects of computers
DOI: https://doi.org/10.5169/seals-53826

Nutzungsbedingungen
Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Mehr erfahren

Conditions d'utilisation
L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. En savoir plus

Terms of use
The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. Find out more

Download PDF: 19.08.2025

ETH-Bibliothek Zürich, E-Periodica, https://www.e-periodica.ch

We therefore pose the following question:

Question 10. What elements of computer science and informatics should be introduced into the training of teachers, and how can they be prepared and helped to teach mathematics in a new way, consonant with the new computing context? Some experience in this area already exists.

3. The computer as an aid to the teaching of mathematics

3.1. The general effects of computers

The use of computers compels one not only to recognise in the area of experiments a source of mathematical ideas and a field for the illustration of results, but also a place where confrontation will permanently occur between theory and practice. This last poses a problem, which will occur in the training of teachers as well as of students, of promoting the *experimental attitude* (observation, testing, control of variables, ...) alongside, and on a par with, the *mathematical attitude* (conjecture, proof, verification, ...). Does it suffice, to speak, as some people do, of "experimental mathematics"?

We now have a triangle, student-teacher-computer, where previously only a dual relationship existed. Is there not a danger that, in order to preserve as much as possible the traditional student-teacher relationship, students' work on a computer will be restricted to simplistic activities which are "without risk" for the teacher?

Students are bound to be aware (as a result of their environment and the media) of the widespread use of computers as well as their associated peripherals, even interconnecting systems and data banks. They have also seen spectacular graphics displayed on a screen, or traced on a plotter. As a result of this, students have new expectations with respect to teaching in general and that of mathematics in particular. How can the computer be used by and with the students in order to meet these new expectations?

In addition to the changes of interest to which informatics leads, one must also draw attention to the changes in the difficulty of exercises and problems. Not only will the use of a computer change the order of difficulty of exercises, but it will also change the relative difficulties of the various ways of solving the same exercise. How can one arrive at new hierarchies and take them into account when one constructs exercises?