

Electronic Access to Literature in Theory and Practice of Statistics Education

Gerhard König

Fachinformationszentrum Karlsruhe

76344 Eggenstein-Leopoldshafen, Germany

e-mail: GK@fiz-karlsruhe.de

Introduction

There has been a substantial increase in publications dealing with research in mathematical education in general and in particular on experiments in various countries, new pedagogical concepts and insights, topics, and teaching concepts. One of the features of the growth is the expansion of journals in this field in both number and page count. Journals are of great importance for everyone interested in national developments as well as for an international exchange of ideas. They are the primary vehicle for the dissemination of new research findings. About 400 journals on mathematics education serve worldwide as channels for scientific communication. (see an overview in <http://www.fiz-karlsruhe.de/fiz/publications/zdm/zdmzs.html>). The penetration of calculators and computers in education led to the creation of whole new areas of research. This is also true for statistics and its teaching.

The purpose of this presentation is to provide an insight into how to cope with this flood of information. The reader is given some information on the international services which may help him keep up to date with the current progress in elementary statistics and statistics education: bibliographic on-line databases.

Database MATHDI

The most important bibliographic database for research in mathematics education is MATHDI (MATHematical DIDactics) produced, designed and offered by FIZ Karlsruhe. On Internet MATHDI is offered through the World Wide Web via the EMIS service of the European Mathematical Society (EMS). The rich array of useful literature information is available through: <http://www.emis.de>. Another possibility of availability is through the host STN International.

Subject coverage of MATHDI:

- Research in mathematics education,
- methodology of didactics of mathematics,
- mathematical instruction from elementary school to university teaching and teacher training,
- elementary mathematics and its applications,
- computer science education,
- basic pedagogical and psychological issues for mathematics and science education.

MATHDI provides the quickest and most convenient access to literature in mathematics education and computer science education. It contains all literature reviewed since 1976, totaling 104.000 references (30.06.2003). Some 6.000 items are added each year.

MATHDI is intended for: didacticians of mathematics in research and education, trainers and lecturers, educational technologists, instructional designers, and curriculum experts, policy-makers and educational administrators, teachers in general, special and vocational schools.

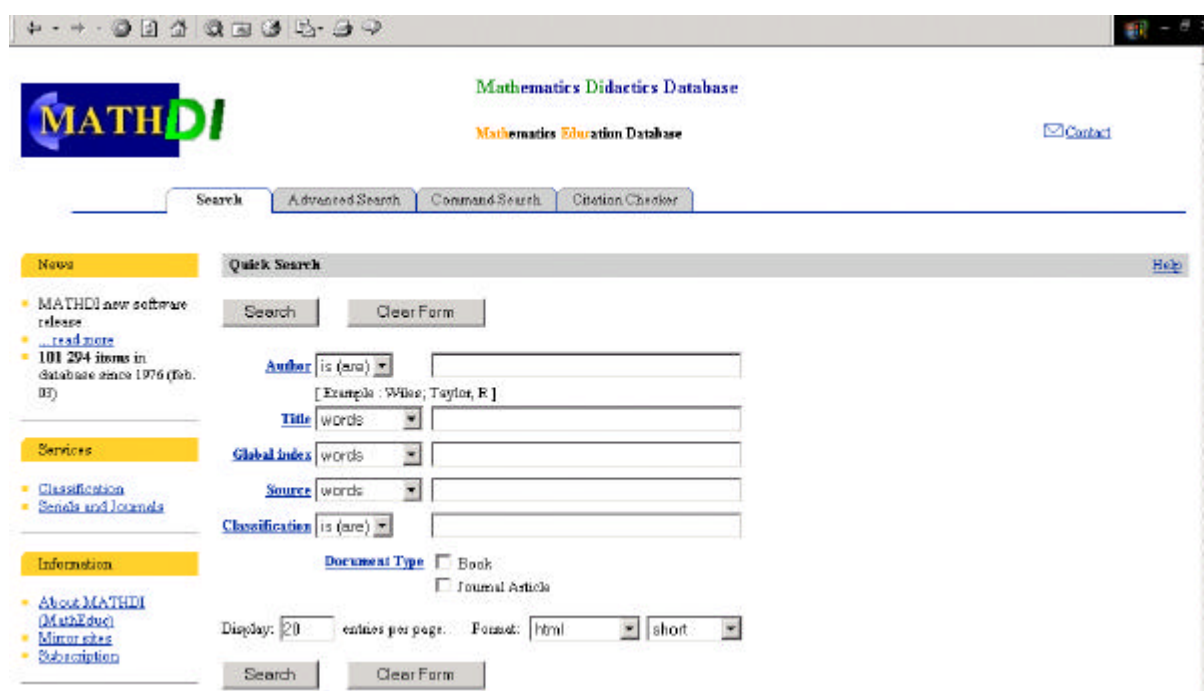
MATHDI is the online computer file of bibliographic information compiled by ZDM. ZDM is the acronym for *Zentralblatt für Didaktik der Mathematik*, English subtitle: International Reviews on Mathematical Education. It is an information and abstract journal in the field of mathematical and

computer education, from elementary level to teacher's training and adult education. This well established journal started in 1968.

Examples of searches in MATHDI

Here are a few examples of sample searches and the number of documents retrieved in MATHDI:

Title	Number of documents
Use of calculators in grades 10-13	423
Use of CAS in statistics education	130
Teaching with Technology	3835
Cooperative learning/teaching	444
Teaching Statistics via Simulation	630
The International TIMS-Study (TIMSS)	186
Statistics and society	150
Trends in teacher education	207
Statistics and other disciplines	1140
Distance education	259
Mathematics and life	1694



RÉSUMÉ

La base de données MATHDI est présentée. Le but de cette base de données est de permettre aux chercheurs en didactique des mathématiques et de statistique d'effectuer facilement une recherche bibliographique sur l'ensemble des ouvrages publiés concernant l'enseignement.