

Issues in international physics education – 1980s

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Abstract. Recently, I was able to read through almost all of the Newsletters of the International Commission on Physics Education (ICPE) that were published from 1981 to 1990. As it is now, ICPE in the 1980s was quite active in sponsoring conferences. These Newsletters also frequently contained lead articles. Some of the articles discuss the teaching of physics; others talk about issues related to a global region. Considering the topics covered at the conferences and in the articles in the Newsletters we can see how some issues have changed and others have not during the past 40 years.

Introduction

The International Commission on Physics Education, Commission 14 of the International Union of Pure and Applied Physics (IUPAP), was founded in 1960 [1]. Since about 1972 the Commission, also known as ICPE, has been publishing a newsletter on approximately an annual basis. These newsletters discuss a variety of topics of interest to the international physics education community. Included in the newsletters are news related to the Commission such as lists of current members and recent award recipients, descriptions of recent past and future conference and articles describing issues concerning the teaching and learning of physics. The newsletters from 1995 (#31) to the present (#75) are available at the web site of the International Union of Pure and Applied Physics (IUPAP) [2]. One may also subscribe to the newsletter at this web site.

A Recent Discovery

Recent newsletters have been distributed in electronic formats. From 1995 to the past few years the newsletters were distributed in print but also made available in electronic versions at [1]. Older ICPE newsletters have generally been unavailable. Recently, the files of E. Leonard Jossem have been made available to me. Leonard was Chair of ICPE for about a decade and received the ICPE Medal in 1995. Among Professor Jossem's papers were paper copies of most of the ICPE newsletters from 1982 through 1990.

Just as with more recent newsletters, the ones from the 1980s present a variety articles about physics teaching and learning and about physics education research. Many of the articles describe some details of upcoming or recent past conferences which received support from ICPE. These article frequently provide details about presentations at the conferences and, thus, offer insights into some of the issues facing physics educators during the 1980s. Some examples are: "Education for Physics Teaching" (described in Newsletter #9, 1981), "Science and Technology Education (Newsletter #11, 1983) and "First Summer Workshop on Research in Physics Education Research (Newsletter #13, 1984). Other articles discuss specific teaching techniques, such as "Circuit boards developed in Botswana" (Newsletter #13, 1984).

Perhaps the most interesting articles are those that are short narratives about regional or international efforts in improving the teaching and learning of physics. "Agricultural Physics in Tanzania, Four Years Later" by Professor C. J. Stigter from the University of Dar es Salaam appears in newsletter #11 (1983). It is a follow-up to a previous article which appeared in Newsletter #5 of which, unfortunately, we do not have a copy.

Other articles discuss broad issues that are probably still of concern today. In newsletter #12 (1983) the late Roman U. Sexl writes “Looking at textbooks and at courses of physics one is mostly struck by the great imbalance between derivations ... of the basic laws of physics and their applications... The application of physics seems to be restricted to a highly idealized, frictionless world of invented examples.”

Other discussions include “University Physics Course: Adequate preparation for teaching?” by Peter Spargo in Newsletter #9 (1981) “Participation of Advanced Students in Writing Textbooks” by Jorge Barojas in Newsletter #13 (1984) and “The Bohr Atom – the Public Symbol of Physics” by P. J. Kennedy in Newsletter #12 (1983).

All of these short articles indicate discussions that were brought to the attention of the international physics teaching community in the 1980s. Comparisons to our current discussions and concerns can help us understand where we have made progress and where some progress is still needed.

Future Efforts

The obvious next step in this process is to digitize the recently rediscovered newsletters and make them available from the Web site give in Reference 2. Because of the page format and the size of the typeface, this effort may be more time consuming than a simple scan. However, it can be finished relatively soon.

The second step is to try to find the missing newsletters. The first decade of newsletters and several other more recent ones are not available in the collection that has been discussed here or on the IUPAP Web site.

Finally, and most valuable, will be to conduct some type of content analysis of the newsletters. With this effort we can see how some of the concerns of the international physics education community have changed since the last quarter of the 20th Century.

References

- [1] S. C. Brown and N. Clarks (eds) *International Education in Physics*, The MIT Press, Cambridge, Massachusetts, 1960
- [2] <https://iupap.org/who-we-are/internal-organization/commissions/c14-physics-education/c14-news/>