THE "UGO MORIN" DIDACTIC RESEARCH CENTRE: LINKING RESEARCH IN MATHEMATICS EDUCATION AND TEACHING IN ITALIAN SCHOOL

Adriano DEMATTÈ, Luigi TOMASI

Centro Ricerche Didattiche "Ugo Morin" Via S. Giacomo 4, Pieve del Grappa (TV), Italy adrdematte@gmail.com, luigi.tomasi@unipd.it

ABSTRACT

This article presents the "Morin" Centre, an association founded on 1968 as a service to the schools in Italy. Since 1970, it publishes a journal: "The Teaching of Mathematics and Integrated Sciences". In over half a century of activity, the Centre has focused on some fundamental issues of mathematics education, such as: role of problems, use of new technologies, value of the history of mathematics. The attention of teachers for the activities of the Centre is still alive. Collaboration with Universities and schools appears to be an important resource for the future.

Introduction

The "Ugo Morin" Educational Research Centre is an independent cultural association the members of which are mainly mathematics teachers, university professors, people interested in the study and teaching of mathematics and integrated sciences; other institutions, such as schools and universities, can also be members of the Centre. The Members' Assembly is summoned every year by the President on the occasion of the annual Seminar which is traditionally held at the end of the summer. A Presidency Council is made up of the President and six Advisers elected by the Members' Assembly. A Scientific Commission is appointed by the Presidency Council.

1 The story

The "Morin" Centre was founded on December 27, 1968, in Paderno del Grappa, now Pieve del Grappa (Treviso, Italy), with the denomination of "Group of Pedagogy of Mathematics" (Sitia, 1994; Ferrari, 2020). The founders conceived the Centre as a service to the Italian school – to renew it in favour of young people – with the following aims: teachers' training, participa-

tion in conferences in Italy and abroad, bibliographic information, exchange of experiences actually carried out (Tomasi, 2022).

In the report of the two intense days of work of 27-28 December 1968 (Sitia, 1994), motivations and ideals of the association appear linked to the personal history of each of the participants and to that period of great renewal in international society and in mathematics education. Teachers made speeches proposing to form working groups to elaborate possible curricular changes in reference to the contents of *modern mathematics* as a resource for the renewal of the traditional contents - see (Tomasi & Demattè, these Proceedings). Teachers and school directors feel an urgent need for the assistance of professional mathematicians. The hope of collaboration between primary and secondary school teachers is highlighted. The denomination "Group of Pedagogy of Mathematics" underlines the fact that the founders do not intend to work only with reference to mathematics, but above all in pedagogical and didactical perspective. The renewal cannot be imposed from above but must be the fruit of the work of teams of specialists in mathematics, psychology, pedagogy, and didactics. Some statements in the report are in line with the spirit of contestation of that period: it is stated that it is not possible to accept without serious reservations the programs proposed by the Instruction Minister, and the wish has been expressed for the "abandonment of a teaching method that became sterile in the boredom of empty algorithmic exercises". It is said that the renewal of mathematics teaching means above all a pedagogical revolution. A provisional statute is reported, discussed, and approved unanimously by the Assembly (Sitia, 1969).

In 1970 the journal *L'insegnamento della matematica* [The Teaching of Mathematics] was founded; in 1971 it got an "Advisory Committee". In 1978 the journal took on its current name: *L'Insegnamento della Matematica e delle Scienze Integrate* [The Teaching of Mathematics and Integrated Sciences] (Ferrari, 2020).

After the founding Assembly, the first "National Seminar on Mathematics Teaching" was held on 26-27 September 1970 and, after that, every subsequent year. Now, it is flanked by other initiatives such as "Sunday training courses" in mathematics didactics for primary and lower secondary school teachers and meetings in schools and universities, especially in northern Italy (Ferrari, 1994). In over half a century of activity, the Centre has focused – often in a pioneering way – on some fundamental issues of mathematics educa-

tion, such as: the role of problems, the use of new technologies, the value of the history of mathematics.

2 Important people in the history of the Centre

Ugo Morin (1901-1968) was born in Trieste (Triest, in German) at that time part of the Austro-Hungarian Empire, now Italy. After a period as captain of the merchant marine, he enrolled at the University of Padua and graduated in mathematics in 1926. He immediately began his academic career, as an assistant and then as a professor of Geometry at the Universities of Padua and Trieste. He participated in the struggle for the liberation of northern Italy from Nazi-Fascism. In the 1960s Morin was one of the protagonists of the debate about introduction of "modern mathematics" in the Italian secondary school; he was also author of innovative textbooks (Sitia, 2018; Tomasi, 2018; Guerraggio, 2022). His first textbook was devoted to junior high school geometry; he chose this school as his first commitment, because he thought it to be the most difficult to tackle. This textbook was followed by the Elements of geometry for upper secondary school, part I (1958), part II and part III (1959), also written with his assistant Franca Busulini. It is a work reprinted several times, with subsequent updates and improvements, until 1976. It includes the language of sets, introduces concepts and methods of abstract algebra and proposes a study of geometry based also on the geometric transformations of the plane, following the approach of Klein's "Erlangen Programme" (Tomasi, 2018).

Since its foundation, the main animator of the Centre was Candido Sitia – fr. Roberto (1922-2002), a de La Salle Brother of the Christian Schools, graduate in physics, teacher, and principal of secondary school. He participated in international conferences and had contacts with the most eminent scholars of mathematics education in Italy and in Europe, whom he often invited to the seminars at the Centre. He was a member of the CIIM [Italian Commission for Teaching of Mathematics] a Commission of UMI [Italian Mathematical Union] (Ferrari, 2002).

Among the members of the Advisory Committee of *L'insegnamento della Matematica e delle scienze* integrate there were: Frédérique Papy-Lenger (1921-2005), Belgian, who ran an experimental training program for kindergarten teachers based on a new curriculum; Georges Léopold Anatole Papy

(1920-2011), who influenced French mathematicians in search of an evolution of the pedagogy of mathematics; Hans Freudenthal (1905-1990) who made substantial contributions to algebraic topology and, in 1968, founded the journal Educational Studies in Mathematics; Tamás Varga (1919-1987) who was one of the major personalities of Hungarian and European mathematics education – in the 1960s and '70s he proposed a reform project; Vittorio Checcucci (1918-1991), Italian, who conducted his scientific activity in the sector of Geometry and Mathematics education; Salvatore Ciampa (1930-1973) who studied in Italy and at the Columbia University and held, from 1972, the position of President of CIIM; Angelo Pescarini (1919-2000) who was a secondary school teacher – also professor in charge of the University of Ferrara – and planned projects for primary school. The current president of the Centre is Cinzia Bonotto of the University of Padua. Honorary president is Mario Ferrari of the University of Pavia; he alsoserved as president until 2017. A fundamental characteristic is that the collaborators - university teachers and primary or secondary school teachers – are all volunteers.

3 **Publications and website**

The journal includes educational research articles, reports of experiences in the classroom, proceedings of the annual Conference, articles by the AIRDM (Italian Association for Research in Mathematics Didactics) collected in special issues. It is divided into A-edition dedicated to primary and lower secondary school (the referent is Cinzia Bonotto) and B-edition dedicated to upper secondary school (the referent is Pier Luigi Ferrari of the University of Eastern Piedmont). All issues of the journal are available by using a password provided to the subscribers. In addition, monographs on in-depth topics are published: the *Quaderni* [Booklets] divided into three series (didactic, work, research) and the *Formazione Professionale* [Professional Training (of mathematics teachers)] series by the Didactic Research Unit of the University of Pavia.

For more information about the Centre, please see http://www.centromorin.it/. There, among other things, you can find the list of topics addressed in the annual seminars, the issues of the journal, the library file. In fact, the Centre has a well-stocked library, richer than the libraries of other Italian associations and even richer than the mathematics education sec-

tor of university libraries. It contains about 7500 volumes (almost all registered and presented online) and receives or exchanges 78 Italian and international journals oriented to teaching of mathematics and science, to didactic and pedagogical research, and to epistemology. The library is open to all Members of the Centre, to teachers and to all those who make a request. In addition, from the site it is possible to download a copy of the 1478 original of *Treviso Arithmetic*, the first ever printed mathematics book.

4 Conclusion

We asked ourselves the question: in what terms was the intention of linking research in mathematics education and teaching in Italian school – according to the founders' aims (quoted in section 1) – achieved? To prepare this contribution, we retraced the story of the association – to highlight the role of people, obstacles, and material resources – through discussions with other members of the Centre and with the honorary President. We have identified three crucial periods: 1) the first two years from the foundation, in order to focus on how the activities of the Centre could have started; 2) the long intermediate period during which most of the aims of the founders had the possibility of realization; 3) the last five years for a reflection on future perspectives.

1) The founders all had a more or less long experience in teaching. They manifested love for their profession as educators – as evidenced by their willingness to face two days of intense work during the Christmas holidays. They demonstrated the desire for renewal – as shown in the report of the two days. Their attitude of service to colleagues was realized above all in collaboration with the reference figure of Candido Sitia. We consider his long-lasting dedication to the Centre in some sense as a consequence of his choice to dedicate his life to the service of education among the Brothers of the Christian Schools. He deserves the credit for having built a network of relationships between the founders and with other possible collaborators. The Centre found its headquarters in a building owned by the Brothers of the Christian Schools.

2) A group of volunteers dedicated their work to the activities of the Centre. The journal has had an ever-increasing circulation. New publications were created (the previously cited *Booklets*). Alongside the annual Seminar, "Sunday training courses" have started. All this happened even if external funding was limited to short periods. 3) Previous activities continued and collaborations with universities and national associations (UMI-CIIM, AIRDM) have been strengthened. However, the activities promoted by the Centre are attended by fewer young teachers and the number of subscribers to the journal (i.e., members of the Centre) is decreasing. It seems essential to make the Centre better known even among those scholars and teachers who, due to the geographical distance, find it difficult to participate in face-to-face meetings.

In summary, we can say that the aim to involve teachers and maintain links with researchers in mathematics education has been achieved over the years. Volunteers support the aims of the Centre. As a critical point, we fear a shift away of educational research from the aspects that teachers consider central to classroom work. The debate within the Centre and the issues addressed during the annual Seminars concern mathematical content and reporting of class experiences; a specific reflection aimed at the pedagogical aspects remains as a future requirement.

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