

CHAPTER

2

RISK ASSESSMENT IN SCHOOLS IN FRANCE

**Jean-Marie
Schl ret**

*National Observatory
for Safety in Schools
and Universities,
France*

Abstract: Since 1995, the National Observatory for Safety in Schools and Universities in France has been actively involved in the area of school safety and security. This paper presents the activities of the Observatory, which in co-operation with other public bodies such as the Ministry for Ecology and Sustainable Development in France, has developed a number of risk assessment tools for schools, including an annual survey on risk prevention in public lower and upper secondary schools. It also describes the explosion of the chemical plant in Toulouse in 2001 and assesses its impact on schools in the area.

Introduction

In 1995, the French Government set up the *Observatoire national de la Sécurité des établissements scolaires et d'enseignement supérieur* (National Observatory for Safety in Schools and Universities), comprising representatives of public authorities holding title to school buildings, teaching staff, parents of students in public and private schools, and ministries. The Observatory's mission is to address all issues affecting the safety of persons, buildings and equipment in the French education system, including building stability and fire hazards, accident research and prevention, technological and scientific equipment, and major risks. Its mandate does not include violence-related security issues. The Observatory's annual reports, which are prepared with experts, are distributed to various governmental agencies, public authorities, and safety and security stakeholders (Observatory, 2003).

Methods of assessing natural risks

Information on natural and technological risks

In France, prefects are required to compile a general document with information on natural and technological risks, identifying the risks to which each *commune* in their *département* is exposed. From this *département*-wide catalogue of major risks, the prefect prepares a summary document for each *commune* with information about the risks, location of risks and preventive measures that have been taken within the *commune*.

The Ministry for Ecology and Sustainable Development prepared a report on the summary *commune* documents. The study showed that reports had been prepared for 6 700 of the 16 000 *communes* with known risks, and that an average of 800 reports were prepared each year. It also found that certain *départements* were falling behind; documents had not yet been prepared in some *communes* with nuclear waste reprocessing plants or major volcanic risks. So although mayors are required to keep their populations informed of risks at least every alternate year, in many cases, schools were not adequately informed about major risks.

Mapping

Knowledge of risk zones in relation to the location of schools is a fundamental element of both crisis prevention and crisis management. To assess major risks, risk areas can be mapped according to the geographical area or type of risk – areas that are vulnerable to flooding, are subject to seismic risks, or contain hazardous industrial facilities, nuclear

power plants or air traffic corridors. While lack of information on schools located in risk zones is dangerous, such information could also be used to stigmatisate schools that are more highly exposed than others.

A safety plan for each school

From May 2002, each school in France is required to prepare a safety plan, which is an important tool for risk assessment and crisis management. Preparing these plans requires knowledge of the major risks in the *commune* and the school's environment. In order to be effective, this information needs to be disseminated to all students and parents and maintained through frequent simulation drills, regularly updated information and regular contact with local aid authorities.

Risk assessment tools for schools

The ESOPE general safety survey

To improve school safety assessments, since 1995 the Observatory has conducted 35 surveys in a number of work areas developed by its commissions. To avoid respondent burden and to ensure regular and consistent reporting, in 2003 the Observatory introduced an *Enquête sécurité de l'Observatoire pour les établissements* (ESOPE), an annual survey on risk prevention in public lower and upper secondary schools. In the future, the survey will also be carried out in elementary schools, higher education institutions and private schools under contract. The survey is designed to help school managers to complete the single risk prevention document and to implement the annual prevention programme. The survey covers a number of security-related topics in school buildings and sporting facilities, including fire safety, health and hygiene, building maintenance, and major risks.

A document for preventing risks in the workplace

New regulatory provisions for assessing and preventing risks in the workplace have increased employers' obligations and responsibilities to protect the health and safety of employees. School principals are therefore obliged to institute a comprehensive prevention plan to identify the risks to which staff and students under their authority are exposed, and develop a culture of safety through risk assessment and the annual prevention programme.

Main risks identified

Accidents

Since 1995, the Observatory has been conducting a study of accidents that cause bodily injury to students in school. "Accident" is defined as an event leading to hospitalisation or medical intervention. In 2002, the analysis covered 46 774 accidents reported during the 2001/02 school year. Two per cent (1 000 accidents) of accidents in elementary schools required hospitalisation for more than 48 hours. Head injuries were by far the most common type of injury in elementary schools, making up more than one-third of injuries reported. In addition, the risk of accidents increased with age up to the first year of

secondary school. Accidents in school playgrounds were the most common (68%), many of them caused by students bumping into each other. Accidents in physical education accounted for 57% of incidents in secondary schools. In vocational secondary schools, 505 reported accidents (18%) involved machinery.

Fires

The first comprehensive safety survey of public and private secondary schools in France focused on fire safety in 30 000 buildings in 11 000 schools. Alarms, emergency lighting, non-conformity of doors, partitioning and smoke detection in staircases, and containment of risk areas were examined in safety committee reports. Seven per cent of buildings were found to be at risk.

Initial ESOPE findings indicated that 89% of schools were rated favourably by the safety commission. However, in 44% of schools, fewer than two daytime evacuation drills had been conducted in that year, although three drills per year are mandatory. In nearly 54% of schools, the evacuations lasted less than three minutes. Only 17% of schools with boarding facilities conducted the required number of night-time evacuation drills.

A census of violent acts conducted by the Ministry of National Education revealed that a disturbing number of arson attempts are directed against schools. Some 607 arson attempts were recorded in 2001/02, and 567 in 2002/03. Over the same period, the number of partial fires increased from 293 to 261. For its part, the Observatory designed a fire report form that can be used to determine the most frequent causes of fires and to monitor fire safety developments in schools.

Major risks

In the ESOPE survey, 46% of respondent schools identified major risks in their *communes*. This low percentage can be accounted for in part by the lack of information provided by mayors. According to survey results, the main natural risks to which schools reported they are exposed are cyclones and storms, floods and mudslides, earthquakes in exposed areas, and landslides. The most commonly reported technological and industrial risks were the transport of hazardous materials, chemical accidents and nuclear accidents.

Special safety plans for major risks were implemented in 13% of schools. This is clearly insufficient given that an official document published in the form of a practical guidebook required schools to formulate these plans from May 2002. While some efforts are being made – 20% of school staff have received training – much work remains to be done.

Assessment of the disaster in Toulouse

On 21 September 2001, ten days after the attacks in the United States, the Azote de France (AZF) plant in Toulouse exploded. The blast from the explosion inflicted damage over a radius of 5 km. The plant was part of a vast chemical complex located on the approach route to the airport, 5 km from the centre of the city, in the southern part of metropolitan Toulouse. Ammonia, nitric acid and sulphuric acid were stored at the facility. Three hundred tonnes of ammonium nitrate for use in fertilisers exploded.

Human and material casualties

Most of the 30 deaths involved plant personnel. Of the 3 000 people injured, school personnel were most affected. One student was killed, and 16 students and two teachers were among the most seriously injured. Two secondary schools were destroyed: *Lycée Galieni*, which was occupied by 850 persons, and *Lycée Française*, where 650 staff and students were located. At the time of the explosion, *Lycée Galieni* students were either in classrooms or in auto-repair workshops. A number of students were in the locker room changing for a physical education class in the adjacent gymnasium, which was totally destroyed by the blast. All of the building's windows were shattered, and false ceilings and partitions collapsed. Roofs were torn off a number of buildings, and the roof of the school canteen collapsed. And yet, concrete structures held up, as in the other schools. At *Lycée Française*, where the support beams of a number of buildings collapsed, the same types of damage were sustained. In the ravaged hairstyling apprenticeship rooms, the students – mostly girls – suffered injuries from flying glass and other objects. The most serious injuries resulted from falling blocks of materials.

The fatal accident that killed a young student warrants closer attention. The student, who had just changed in the locker room, went out to the gymnasium before the others at the very moment of the explosion, which sent construction materials and heavy metal fragments in particular, flying in all directions. He died almost instantly, not far from another student, who had also come out before the others, and who for the same reasons will unfortunately be scarred for life. If the disaster had occurred five minutes later, the dozens of students who had been changing in the locker room would have been either outdoors, struck by flying debris, or in the gymnasium, which was devastated by the blast. With the exceptions of the canteen and gym, which with its unique architecture was totally devastated, the other buildings offered students much better protection than outdoor areas.

Initial lessons

Information gathered after the explosion from the emergency taskforce indicated that school managers did not obtain directives from the academic authorities until one hour after the incident. Radio messages instructed that "students be kept in rooms with windows that can close, and they should not go out". But virtually all of the windows in front-line buildings had been broken.

The regional education authorities in Toulouse, which in the following hours and days had to manage thousands of calls, soon organised material assistance and psychological support for nearly one-third of the 20 000 students in the schools affected by the explosion. Systematic sight and vision tests were also conducted. The feelings of uncontrolled panic recorded by managers and students in interviews after the explosion highlight the importance of general initial-response training programmes, such as the one initialised by Lieutenant Thomas in Grasse (see Chapter 17, in this publication).

Problems of co-ordination with the authorities and external services must also be addressed. Lack of preparation was another important issue. In general, group information

campaigns met with little success, and numerous workshops on how to prepare for major risks were cancelled due to lack of enrolment. As a result, rescue worker roles had to be improvised in a country in which only 10% of the population has received any first-aid training.

Risk assessment is compulsory for schools and state services in France. The various instruments at their disposal enable these bodies to make the best possible assessment, and thus to provide effective prevention and maximum safety for the students in their care. Much remains to be done, however, before everyone truly assumes responsibility for their own safety.

Reference

Observatoire national de la Sécurité des établissements scolaires et d'enseignement supérieur (Observatory) (2003), Annual Report 2003, Observatory, Paris.