

SOARING AT SCHOOL: STUDIES ON ASSISTING AND ENCOURAGING FRENCH TEACHERS TO DEVELOP KNOWLEDGE OF SOARING AMONG THEIR PUPILS

by Dr. Gérard Gillot, University of Dijon, France

Presented at the XXI OSTIV Congress, Wiener-Neustadt, Austria (1989)

FORWARD

First, I want to say a few words about my laboratory, in the University of Dijon in France. Our researchers try to value and to improve human performances in high level competitions, especially in several sports in which we have good relationships with the Olympic teams, as in athletics, gymnastics, sailing. Because I had been twice European champion in a sailing class, in '79 and '81, I worked until 1982 about sailing.

When I did my Ph.D. dissertation, about left handedness in

sports, I made Professor Michel Bouet's acquaintance, because he was one of my examiners. I think he is well known here, as well as a scientist as a writer. He has just published a beautiful book of soaring memories called "On the Wings of the Wind" (GAMMA ed. 1989). He became since 1982, my Master in research for my state dissertation. With his advice, I work to a subject in cognitive sport-psychology: I examine how sportsmen select information, how they take their decisions, especially risky ones, how they plan their actions, in all sports, but particularly in the "eco-sports" like sailing, surfing and gliding, where men use their

intelligence to control the energies of nature.

Thanks to Michel Bouet's, in 1983, I flew my first soaring flight in Rennes, and then packed up the racing and became a "soaring crazy." In the next weeks, I shall take the direction of a large scientific project about mental and physical techniques of recuperation during continuous events. This project will gather around me about 20 searchers during 3 years. And, I hope I can give you the first results at the next Congress in 1991.

During the past three years, I decided to be interested with the development of soaring. I had a good understanding of the complex administrations of which soaring depends in France, and as the Chairman of the Regional Soaring Committee of Bourgogne, I obtained money to set up training periods for young pilots, for buying gliders and for building a soaring center near Dijon. But, I disagreed with the policy of the board of my club about showing gliders in supermarkets, or in fairs and club members were always surprised not to have plenty of young people interested in soaring. For me, as psychologist and sociologist, it was a big mistake. So, I decided in 1985 and 1986 to start with two actions:

First, I set up formation-periods for the members of the Boards, in each soaring club of my region, about sociology of sport, psychology of sports' choices, about management and administrative techniques. My aim was to teach the politicians of the clubs that sport is a singular world, with its own rules, and that the background where motivations for sports grow up is not yet the supermarket or the fair, but the school and to a smaller extent, the family. At least, it is still so in France.

Secondly, because the teachers are formed in France at the University, I was probably one of the few to be able to start a long-term action to develop the knowledge of aviation, and particularly of soaring, during the training of the teachers themselves. And that is what I want to speak about now.

France has been a big nation of pioneers: pilots, engineers, aircraft builders. Pupils must know all these talents, of which they sometimes learn something, but rarely of the point of view of aviation. For example, they know Roland-Garros, but as a tennis player, or Antoine de Saint-Exupery, but as a writer; and also Andre' Malraux, but as the Minister of Culture of General De Gaulle. The whole history of all such men, the technology of all their works (some of the old timers are definitely lost, and in our soaring clubs some madmen even burn ancient gliders), constitutes an extraordinary cultural value.

Modern life needs aviation. For military force, for trade and travel, for sport and recreation. In France during several decades, the main aviation activity (in the Army and in the companies) has grown up apart from the school, and from the popular movement for a more democratic way to fly. To make flying models constitutes often the aviation of the poor people. All this is a very negative situation for aviation in general, and in particular for soaring. Pupils have forgotten to learn, because their teachers did not let them learn, this important part of our scientific and technical culture, which, in less than a century, let us go from balloons to rockets. But, boys and girls who learn mathematics, geography, history, and the main topics of the modern economic world hear nothing about aviation, space or soaring at school. They have a great lack of motivation for the aerial sports. We have twelve-thousand glider pilots in France, but how many make regular cross country flights?

However, about 1985 in France, some teachers who continued to teach modeling in school decided to set up a new challenge: introducing again teaching about aviation and space in the school. They had several different aims:

- transmitting their passion for an aerial sport or another;
- finding a common theme of teaching, using different approaches;
- getting pupils more attentive by means of more practical lessons; and so on.

I was one of these teachers, and what I want to speak about is how, after a first half-failed experience, we meet together, and how we are now developing since three years a plan to reintroduce at school the teaching about aviation and space, and especially the teaching of soaring.

1. First experience: 1986

I will be very short about this first experience, not because it half-failed, but because the second is more generally interesting. I called this experience "action-formation-research," as Prof. Schwartz called researches which are immediately applied to actions, and where people are taught as far as the research goes. My idea was very simple to transform some of my University students in physical education and sports into soaring pilots during their studies (4 or 5 years):

- during the first year, to learn to be glider pilots;
- during the second, to make cross country flights, and get their D certificate;
- during the third year, to obtain the E certificate and prepare to be soaring instructors;
- the last year, they are soaring instructors; and some of them try to be also competition pilots.

Each year in France, 2500 students in physical education and sports try to become teachers and 2000 fail, not because they are bad students, but because there are only 500 appointments proposed in the competitive examination. So, each year, many of those who have failed turn in the clubs as coaches or trainers, but none in the soaring clubs because they do not know what soaring is, which they often mix with sailing, hang gliding or paragliding.

I thought that, if they became teachers in physical training at school, they could introduce soaring to their pupils, or alternatively become very good soaring instructors in the clubs, which lacked professionals able to organize well.

This first attempt was made with 3 students, 2 boys (a rugby man and a judoka) and a beautiful dance woman. (This subjective remark became an objective one during the training period, because many pilots circled around her rather than under the clouds, mainly the youngest soaring instructors, who decided no longer to fly gliders.) In spite of these unexpected difficulties, the results of the first year were very good: all 3 got their pilot certificate after a few hours of instruction, and began to fly solo very well. But the experience stopped at the beginning of the second year, for two main reasons:

- first because of the too-high prices in the club. Even with a subsidy from the French Soaring Federation, the cost was still too high for them. A suggestion that the club should cut the prices for the students was without result.
- and then, at the same time, the Minister of Education and Sport decided to shift the formation of the teachers in physical education in a less specific manner. So, we would not extend the experience any longer, since it had lost its logical significance.

If the formation of the teachers had not changes, another big aim could have been reached: having in the University, among the students in physical education and sports, a lot of 20 to 30 glider pilots each year, and then, introducing an initiation to soaring as an obligatory teaching for all students as well as athletics or gymnastics.

We have been unlucky with this first experience. But, we do not renounce this project. We are waiting for another Minister of Sports who would come back to the initial formation.

2. Second Experience: 1987 to now.

Since 1982 to 1985, I spent each year 15 days of my holidays with a team of professors in the University of Lyon. We tried to set up for teachers who taught in difficult primary and secondary schools, different formation periods. In these periods, the teachers come free of charge, but they must volunteer to give a significant part of their holidays to be taught in several subjects about pedagogics. Indeed the Minister of Education Alain Savary had decided since 1981 to help us, and other teams who were still

working to first against scholar failure.

In 1981, just one Summer University (SU) was organized, about the use of computers at school by pupils. In 1982, 35 SU's were organized. In 1983, 81 and in 1984 more than a hundred, with a budget of more than one million francs.

In Lyon, subjects included: how to manage a pedagogic project for a class, for a school, in a specific matter. How to determine progressive targets in a curriculum and how to follow the improvement of the pupils with formative evaluation, and so on.

In 1984, I felt able to organize with some friends, the first SU to be done in Dijon, with the aim to fight against scholar failure, especially in readings at primary and secondary schools. Then, in 1985, we set up another SU for headmasters about management techniques. In 1986, I spent my holidays on the airfield for my research, and the idea of a Summer University about soaring came to me little by little, as another way to develop soaring at school.

The agreement between the Minister of Education and the Minister of Civil Aviation did not yet exist. So, I decided not to expect that the persons in charge of the problem had decided to talk about what was to be done, and I proposed a SU about "the formation of teachers to aeronautics" for the holidays 87.

In the beginning of the project, I was working alone and I had to speak very broadly with several large aims such as:

- taking aeronautics as a teaching theme, giving motivation to learn to pupils who had failed;
- gathering teachers and pupils of a technique school around the project of building an aircraft; because, to calculate it, to design it, to build its pieces, to assemble them together to make its pattern of decoration, pupils should have to do arithmetic, geometry, technical drawing, fine arts and so on.

This first Summer University about aeronautics aimed to demonstrate that it is possible, with the theme of Aviation and Space, to teach all the normal subjects, as well as in the ordinary way and perhaps better. All matters, even literature and philosophy. I thought of these marvelous flight stories, from the pioneers to our modern writers about soaring: Dieter Maier, Helmut Reichmann in Germany, Moffatt in the US, Michel Bouet's in France. In philosophy, I showed that performance in sport is the sign of an existential philosophy.

We put ourselves to the test of competition or feat, in order to test our personality.

Although alone in this project of SU, I was supported by some friends in the French Soaring Federation, particularly by its Technical Chairman, Mr. Claude Allongue; also by the Chairman of the Services of the Formation in the Civil Aviation Minister, Mr. Jean Nobel, and near him, by Mr. Michel Sivry, who is the administrative chief of the center of St. Auban, the well-known French national soaring center. They were all waiting for me to add to my general aims the specific one of developing the knowledge about soaring at school.

Of course, it was for me a main point. But it was also the "not to be said" of the project because if we wanted to have this SU, the tactical way was to talk about very general aims. It was a good tactic. Moreover, I would see who was interested in aviation and space in general at school. So, I sent my project in January of 1987, and the result of my "fishing party" was broadly as I had expected:

- the Minister of Education chose the project, and gave us sufficient money to pay all the charges to teach 20 persons, who should go from all regions, during 12 days;
- Mr. Nobel and Michel Sivry decided to send to us a flying instructor of St. Auban to teach free about aerodynamics, meteorology, soaring questions and safety;
- Claud Allongue gave us some soaring grants, and I received many phone calls from teachers who had interest in the project who taught aviation, aeromodeling alone, and felt less lonely with the SU.

In less than a month we formed a large solid team, signed an agreement between my University and the Federal Union of Aerial Education Clubs (UFOLEP), and met together several times to prepare our project.

Our aims were as I have described before, but also we accepted that setting aviation, soaring or space projects at school was not immediately possible, based on the experience of the past SU in Lyon. So, I must explain that we should have to set up three levels of periods:

- Level 1: Giving information to the teachers about aviation, space, soaring, so they could imagine what could be possible in their matter and with the colleagues;
- Level 2: Setting up (better) aero projects;
- Level 3: Forming then the team managers to teach about aeronautics at school to the other colleagues.

Among dozens of candidates, we had to select only 20. We made that hard selection with several rules: selecting teachers without aerial experience; selecting teachers of various matters, regions, level of studies (even headmasters or counselors in education, intending to mix up several different interesting points of view about failure); having women in the period because usually they are not interested in technical matters, and because in France 80% of the teachers in the primary and secondary classes are women.

We did a very interesting teaching program which we had to refine in 1988. For the first experience, in 1987, the teachers spent the morning at the University and the afternoons on the field, to have a short one week soaring period. The days did not finish with the dinner. Afterwards, the teachers learned about history of aviation, had very good talks with the glider pilots and the soaring instructors of the club, also with military and airline pilots. The days were very long, but not one said he would not take part in all the activities.

For the second experience at the same first level, in 1988, I could not organize the period that way. I talked about pedagogics and soaring in the future and the soaring club talked about more and more money. So, I managed another teaching plan with several aerial activities: soaring of course (but only one flight), powered aircraft, ultra light aircraft, paragliding, stunt aircraft, RC models and aerial games. All the activities were available.

In matters of scientific lectures, we amended the syllabus of the first SU to put more emphases on soaring, aviation and space. My colleagues were most helpful. For example, my friend Prof. Jack Belleville spoke about what pilots should eat and drink before, during and after a long soaring flight. Damien Davenne, talked from his experiences about sleep and performances during a championship, explaining clearly the influence of sleep deprivation. I explained some topics in cognitive sport psychology and the different reactions in stress. Prof. Andre Menard, who is the well-known Chairman of the Aerotechnique Institute in Aerodynamics of St. Cyr l'Ecole near Paris, came to acquaint us with aerodynamics in sports. He came with a very beautiful bicycle, he had made ten years previously for the French champion Bernard Hinault, and he talked. We were all fascinated. After 8 hours of conference, we were still asking questions and we looked very differently at our bicycles at my camping car and at the marvelous gliders in the club.

I cannot speak about all the lectures we set up, especially for this second SU, because it would be too long. Just a few words about my friend Mr. Rene Goguy, who is a retired army pilot and who has been greatly interested in aerial archeology for 15 years. He is one of the few in Europe to be so. From a powered aircraft of the club at the beginning of summer early in the morning or late in the evening, he took pictures of the fields. On the infrared pictures, through differential growth of vegetation, we can see the buried walls of a gallo-roman villa, of a Roman temple, of roads or military camps. Rene was so happy to speak about aviation that he spent one hour to explain how to take



PHOTO 1. Sommer Universite in Dijon 1988: The teacher discovers soaring with Denis Louviot (Flying instructor in the National Soaring Center of St-Auban). Photo by Gerard Gillot.



PHOTO 2. Some of the pupils and their flying models.

pictures with military jets like "Mirage." The teachers did not understand well what happened, so he told them about his techniques of interpreting pictures and the day after, he took three teachers in history with him in an aircraft for a 4 hour flight over the fields. What a lesson for them!

We implemented a second lesson from the first period: to give more specific learning aims to the teachers during the week, and trying to evaluate their progress. They had for example to build several different aerial games: hand-launched balsa gliders, a micro rocket one or two boomerangs, a kit or a hot air balloon. My friend Alain Gless who is a French aberration for Popular Aviation Club "CLAP-VIP" is a keen teacher in aerial games for the youngest pupils in the primary school. He saw that all games were correctly carved out. Then, all models were tested in flight. The knowledge in aerodynamics, in history, in biology and in sport management were also checked against a computerized list of questions, made by another friend with the lecturers. During this second first level SU, I had invited some teachers who are glider pilots, flying instructors, aeromodeling teachers to spend some days with us. I gave the several special lectures, in order to help them to set up their own aeronautic projects more efficiently. With those eight advanced teachers, I was preparing the 2nd level SU which we will set up this year (1989) from July 5 to 12th.

They were also my witness-sample for all the evaluations of the teachers. They results were not different from those of the others. We had also tried to set up some more up to date check up techniques than the classical ones proposed by the Recteur's Challin Commission. At the end of the period, all teachers had reached a level of knowledge in aeronautics, which should allow them to talk about aviation to their pupils in a very interesting manner; they also arranged various practical activities, such as visiting the constructors near Dijon (Robin aircraft, COSMOS-ULM), visiting the military airfield of Longvic, which was the first to be equipped with the newest "Mirage 2000," and so on.

The two periods of first level set in 1987 and 1988 were finally a great success in initiating teachers to aviation and space, and especially to soaring. All the teachers continued to progress in aeronautics, and 8 of about 20 for the first year and 6 of about 19 for the second year, began to soar in the same time. I am regularly informed on what they try to do in their classes with the pupils.

3. Extensions

For this year, I submitted to our Minister of Education a project for a Summer University of 2nd level, with experienced teachers in aeronautics, soaring or modeling who wish to set up more efficient aero-projects. Just before coming to this OSTIV Congress in Wiener-Neustadt, I was informed that my project has been agreed to and that this year only 30 projects of SU were selected. Many teachers of all regions in France are still well informed of our work in those SU which are the only ones in our country. And they still prepare to work with us.

During this SU of 2nd level, the teaching will be more concerned with pedagogics, administrative techniques, knowledge about the world of soaring, but we are convinced that it is important to organize also practical activities because it is the teacher's motivation to fly. The French Soaring Federation, as well as the National Soaring Center of St. Auban will take part in the preparation, in order to cooperate for the best of our sport.

For the coming years, I have, of course, the project to set up, probably in St. Auban either in the Soaring Center or in the high level center, a SU of level 3, to form teachers who could be able to do what we try to do now. Then, if I survive the kicks and punches, I will be interested in setting up a research center about soaring. Or perhaps, but it is now in France a crazy idea, to gather all the engineers, researchers, scientific and technical teachers who have an interest with soaring techniques, to set up a french "Akaflieg." I request my friends of the German Akaflieg not to be afraid, because for the moment it is still a dream.

References

- Gillot, G. and Quirion, D. (1988). Teachers on the Airfield, or How to Initiate Pupils to Space or Aeronautics in UFOLEP New, 224, p. 16/20 (in French).
- Gillot, G. (1989). Who are the Soaring Pilots? in Vol a Voile Magazine, 1989, 30, p. 5/6, 1989, 31, p. 14/15 (in French).