

# Applications of Psychoanalysis to the In-service Training of Mathematics Teachers\*

CLAUDINE BLANCHARD-LAVILLE

*Over the past ten years, I have been doing clinical research on the teaching of math with reference to psychoanalytical theories. Based on the hypotheses my research has led me to put forward, I have come up with a system for training mathematics teachers, inspired by the work of the Balint group, in which they do psychic work linked to their professional practice. I will illustrate this approach through the analysis of material taken from a recorded session concerning one particular teacher.*

As a mathematics teacher in a university for the social sciences for several years, I have been able to draw on my experience of teaching mathematics to students taking courses in psychology and the science of education. My contact with these students, who often have problems with mathematics, has led me to reflect on the many complex questions raised by its teaching. As a teacher-researcher at the university, I have done clinical research in which I refer primarily to the insights psychoanalysis provides for interpreting classroom phenomena, while trying to take into account the research work currently being done on the French theory of mathematical didactics.

I have never considered my research separated from my work as a mathematics teacher. On the contrary, I have always tried to maintain a fruitful dialogue between the fields of research and teaching, as our status as teacher-researchers invites us to do.

As teachers, we know a lot about the teaching situation that we find ourselves in every day, but we experience it from the inside, under pressure to make decisions and take action. To perceive it as a researcher, we must see it from a certain distance. To take this "Step back", the researcher is helped by the theoretical work he accomplishes within the framework he has "chosen", and by the use of methodologies designed precisely to create that distance. In my case, my epistemological history gradually led me to refer to psychoanalytical theories, which, in mathematics class, has led me to pay special attention to the psychic dimension of the human actors present as well as to the dynamics created by the relationships among them.

In my view, the teacher is the leader in class. By this, I mean that he is largely responsible for the atmosphere of the class. Of course, the students also play a part in this, but always in reaction to the teacher's propositions. His primary means of expression is language, even if non-verbal communication is also used and lecturing may now often be replaced by organizing student activities. In the teaching situation, beyond his function as expounder of mathematical knowledge, *there is a subject present*, the

teacher-subject. The language chosen will reveal this subject, as well as the topic of his presentation. I use "subject" in the psychoanalytical sense of the word, that is to say, *the subject of the unconscious*. From this perspective, the subject is divided, the unconscious is responsible for this psychic split. Because of this, the teacher-subject is hidden from himself by his speech and actions, and yet "it" expresses things about him without his knowledge. When making decisions in the teaching situation, the teacher is subjected to internal pressures acting upon him without his knowledge. He must survive narcissistically in the class, which, for him, is a very risky space, in terms of relationships. The teacher is consciously influenced by his own epistemological, ideological, and didactic intentions, on the one hand, and on the other, by external pressures, such as institutional pressures and the constraints inherent in the didactic system. Thus the teacher is the focal point of all sorts of tensions. The result of all these forces is a vector of action, the direction of which is necessarily unpredictable at certain moments. For me, this vector is the result of a compromise among all the demands, a compromise which is only, at any given moment, the least unacceptable way of "getting by", of not breaking down in the eyes of the students and above all, in his own eyes.

*By internal pressures, I mean pressures that the teacher-subject imposes on himself, or rather that his unconscious imposes, even without his knowledge.* Here we are entering the domain of what in psychoanalysis is called compulsion, or more exactly *repetition compulsion*, that is to say, an "irrepressible process originating in the unconscious by which the subject [...] repeats former experiences without recalling the prototype and with the very real impression that on the contrary this is something completely motivated by the present moment"

In my view, internal pressures have a great influence on the choices made by a teacher during his class. These pressures, although originating in the unconscious, are not inaccessible however. The object of working at the psychic level is precisely to modify the internal conditions which cause tensions, in order to gradually resolve them, and to obtain a relative working-off of compulsion.

I would now like to suggest what psychic work may consist of for a teacher, with reference to his professional practice, and what conditions are necessary to make it possible. I would like to make it clear that this is in no way a psychoanalytical cure. I will illustrate this with examples taken from two extracts from a recording made in June 1987, after a year's work with a group of four mathematics teachers: two women, whom I will call Ghislaine and Louise, and two men: Jean and Jean-Christophe.

\*A shorter version of this paper was presented at the Psychology of Mathematics Education meeting (PME-15) in Assisi in July 1991.

The method I have used is designed for in-service training of mathematics teachers to help with their personal development. It is a discussion group for men and women high school mathematics teachers. The group works in a manner inspired by the technique of the Balint group. I have been using it for ten years, with groups of between four and seven teachers. The discussions are centred around the psychological implications of their experience of mathematics teaching. The participants give accounts of incidents that have occurred in their classes, or pose questions concerning their teaching. The sessions are held every two weeks, always at the same time. They last two hours. Each participant gradually comes to recognize his most frequent behavior patterns in the classroom: not the attitudes he thinks he has, nor those he would like to have according to his ideological and pedagogical convictions, but the attitudes he actually has in the classroom. The group may reveal them to him, provided that he is prepared to work in this way—in other words, that he can let himself go sufficiently to verbalize his associations. It should be noted that the fact he has volunteered is not enough by itself. For the teacher's decision to take part in the group is one thing, and a genuine effort to achieve awareness and to work through it is another, because of all the repression and resistance that will come to censor and blind him. However, in time—a long time—and provided the work is adequately directed, a few flashes of insight will give each participant a moment of lucidity when he will be able to confront the true image of himself as a teacher. The outline of this image will gradually become clear to him through the contrast provided by the other members of the group. For this to happen, it goes without saying that the participants must be encouraged to speak by a warm atmosphere which is stimulating but not indulgent. The members of the group try to identify, with my help, not only their behavior patterns, but also what determines them: the fears and anxieties at work; or the gains and gratifications sought. This brings them inevitably to reconsider their "rapport au savoir", their relationship to knowledge, which is the result of their personal history and education, and of the way this relationship has developed since they started teaching. The object of their reflection is constantly brought back to the didactic act itself. How does their own "rapport au savoir" come through in the didactic situation? How does this influence their expectations, what do they project onto their students?

In fact, each teacher creates over the years behavior patterns that amount to an acceptable compromise for him, a sort of safety belt. To alter the equilibrium of this compromise (and any didactic change, however simple, does alter it) is costly for the teacher. It causes him some uncomfortable moments even if he knows it will save him energy after a certain time. Indeed, when this pseudo-equilibrium is maintained by extensive use of defense mechanisms, or at the price of a drastic split between the private self and the professional self or between the ideal self-image and the self-image reflected by the students, a lot of psychic energy is wasted in order to maintain this state of meta-stability. In this case, by reducing the defensive system and diminishing the split, energy is liberated for other purposes,

for example for didactic changes. Once this fluidity has been re-acquired, the subject regains a feeling of freedom, despite the weight of psychic determinism, and it can then be hoped that repetition compulsion will be weaker. At the same time, the teacher will have less difficulty recognizing the limits of his action and accepting the fact that he is not omnipotent.

I will illustrate these remarks through the use of material taken from a particular session with the group. This undertaking is somewhat risky as the presentation necessarily linearizes and condenses the results of a process that is anything but linear. It entails repeatedly going over the subject matter, over a very long period of time. Ginette Raimbault's foreword to the collectively written book, "Médecins d'enfants" (Children's doctors), which describes the work of a Balint group of pediatricians that she ran for several years, is appropriate here: "The importance of the doctor's psychic reality in his everyday practice became clear to us over the years with the group. But it only became clear through the repetition that their particular psychic reality led them to make in their many different presentations: the repetition is spread over a period of time in such a way as to become evident and convincing. It is not evident when one reads only one text relating to a single case".

As for the leader, in this case myself, my main function is to maintain the setting and to vouch for the aims of the work. Neither teacher nor therapist, I accompany the members of the group in their inquiries. I try to keep the group in check and to keep in mind what each member has told us beforehand, helping them to make certain links, which allow them to become aware of the repetition. This position entails a certain degree of solitude. I am the only one who is certain that the work is actually being done, despite the resistance and misappreciations of each group member.

The session I am going to speak about is the eighteenth and final session of the year 1987. This explains why a certain degree of trust had been established among the participants, and between the group and myself, and why I was able to ask the group for permission to record the session, which is something I never usually do. Moreover, each member had learned how to work in the desired direction. For three of them, this was the end of their second year in the group. The four participants were used to working together and each had a certain understanding of the other three, undoubtedly superior to his understanding of his own self. It is always easier to see through others than to see through oneself.

I have chosen two moments from this session, two moments in which Jean-Christophe provides material and in which the whole group associates and helps him "find his bearings". I would like to stress that, in my view, Jean-Christophe is a "normal" teacher, as are all the teachers who have taken part in my group. There is no question of describing pathological behavior, it is only a matter of describing singular patterns, tendencies, that it is interesting for the teacher himself to unravel if he wishes to develop in his teaching.

Jean-Christophe seems to be a very dynamic teacher, passionately involved in his work, despite the difficulties,

very creative on a didactic level. He tries out all the suggestions given by the Mathematics Teachers Association. He has a lot of ideas about what is to be taught. He often talks with his colleagues, likes team work. But at the same time, he is a teacher who has difficulty managing certain problem classes, for example classes with children of all ages and all nationalities.

He teaches in a working-class suburb. In his contributions to the group, he tends to play the part of the victim, with a certain masochistic indulgence, representing himself as ill-treated by his pupils in the problem classes. Throughout his three years with the group, there is one problem class among his classes every year.

At one point in the session, about half-way through, I noticed that Jean-Christophe had something to say and that he had been interrupted by the others. I spoke to him :

— What did you want to say then, Jean-Christophe?

J.C. No, I was just thinking of a staff assessment meeting where we were talking about the class I was in charge of, where I was completely "out of it", because the French teacher was doing all the talking, and someone said to me afterwards: "Oh, it's not her class. It's yours."

To make him be more precise, I said :

— When was this?

J.C. In the fall term. But the French teacher was in very good form. I wasn't at all. Well, anyway, at this last staff meeting, about the same class, with the same French teacher, this time, I didn't let her take my place. Well, I mean, when there was a problem with a pupil, I made it a point of honour to say a few words about the pupil.

Now, at the end of the year, the discussion in the group had come around to the question of speaking at staff meetings when one is the teacher in charge of a class, and when one is not. This theme brings us back to one of the recurrent themes in our work: the relationship to speaking in groups and, more generally, the relationship to language, a question which is paradoxically often a problem for mathematics teachers. It is one thing to do mathematics by oneself, on paper, and another to teach the subject through the use of language, and to a group. It is one thing to speak in the classroom, in one's role as teacher, and thus justified, perhaps obliged to speak, and quite another to speak elsewhere, in school hallways, at staff meetings, here in the group, or in everyday situations.

We came to realize that the choice of a position in which one is forced to speak, such as that of a teacher, can sometimes conceal great difficulty in speaking elsewhere; speaking about oneself in the group; speaking the truth, not making speeches as in class; speaking among equals, as in a staff meeting.

Does one have the right to speak: Can one risk asking or deciding to speak: And then, does one have anything to say once it is no longer a question of reeling off one's usual didactic discourse? What is at risk when one speaks the truth? What catastrophes are we fantasizing as feedback?

To return to the staff meeting, which quite often resembles a sort of duplicate of the classroom, it is generally very difficult to speak up, either because: "Everything is expected of you; let the mathematics teacher decide", or else nothing is expected: "We don't even speak to the music teacher". Or one must "apologize for not having the same opinion as the others" and if such is the case, does one dare say so? Sometimes the pupil's case goes by so fast the one hasn't had the time (or hasn't dared) to speak. And then there are teachers who come "with the sole purpose of losing their temper". And then one can end up doubting one's judgment.

Let us note that Jean-Christophe, in this episode, has lost his place to a woman, a French teacher who was not even in charge of the class in question, and who monopolized the discussion, cutting him off. Note the inversion of roles, of the sexes and of subjects taught. A man is replaced by a woman, he has let an assertive woman take his place. We can see his difficulty in occupying this position, reflecting his difficulty in occupying his place as teacher confronted with pupils who don't stay in their places.

Jean-Christophe went on to talk about his uneasiness after this meeting. This time, he had kept his position of authority in the staff room, but at the same time had put himself in a difficult position with regard to his pupils:

"Well, I think I'm going to have some unhappy pupils on my hands. I didn't tell them they were moving up to the next grade but I told them I've no idea what's going to happen but, well, in my opinion, they should be passing all the same. For the pupils, it's going to be, for some of them, it's going to be a surprise. a nasty surprise. What's more, as I had had them doing algebra that term, most of them had done all right. I didn't realize that, well, they were doing all right in math, I didn't realize that in the other subjects, things really weren't going well, I hadn't really suggested to them that they might have to stay back and do the year over again ..."

And a little later:

"After all I don't have any idea what's going to happen; it's the staff that decides, eh? It's not me. They understood, all right, I don't wield the axe. Well, I don't know how you feel about this, but in those classes where, in fact, the staff makes a recommendation, but where in fact it's the parents who decide, our recommendation is symbolic."

Still later:

"What struck me was that I hadn't realized how, er, no it's also because I'm, how can I say, not rigorous enough with them, but, well, they aren't any good at geometry. I didn't do geometry in the third term, or hardly any, because I don't see any point in letting them sink. They might as well do algebra where they've got a chance of success, and then at least they'll have that, rather than discouraging them. Perhaps I didn't give them enough warning. I would have felt better if I had been telling them all through the term, You're not working hard enough, you'll see,

you'll have trouble passing to the next grade next year." Then they wouldn't have been surprised anyway..."

I will now propose a way of interpreting this material in relation to one of my hypotheses on the psychic reality of the function of the teacher in class.

Of course, I didn't have this interpretation explicitly in mind during the session. It is the result of my reflection on Jean-Christophe's development over his three years in the group. It was made easier by the distance I now have with regard to my relations with him, since he left the group three years ago at the time of this writing. At that time, I could not have formulated it as I can today; nevertheless I had (and so had he) a certain understanding of the problems that he re-enacted in his difficult classes. The notes I took after the sessions are proof of this. And then, in this sort of work, as in psychoanalytical treatment, "It is not the analyst's or the patient's understanding that resolves, it is the expression, which is heard but not necessarily understood", as Jacques Durandeaux puts it in his excellent essay on "Analytical poetics", or again advises, "not to answer a question and to respect it more than to answer it, as the answer easily becomes a way of getting rid of the question, in an attempt to consign it to oblivion"

To come back to Jean-Christophe, I see him as grappling with a position of a maternal nature whereas he would like to take up a paternal position; which, at the same time, he cannot assume because of the imaginary fear of "castrating" his pupils (and this is confirmed by the rest of the material from the session). The result is that his ambivalence puts him in a difficult position, since it triggers in his pupils the desire to retaliate

I say position of a maternal nature since he protects "his poor little pupils" at all costs. Under the cover of a didactic choice, he makes them do only algebra, where they have some success, and no geometry at all, so as not to confront them with their lack of ability. Here is a maternal function that has been misunderstood, since he protects the pupils to the point of leaving them with the illusion of their omnipotence, in defiance of the reality principle, and shuts himself off with them in this bubble of illusion, to the point of being surprised by the staff's verdict, which brings him brutally back to Earth. It will be a nasty surprise for the pupils, but for him too, abruptly awoken from the comfortable cocoon with which he had surrounded himself and his pupils. Hence the guilt he feels for having led them down the garden path to some extent, and the remorse for not having assumed—what? The role of the father? But there too, in his fantasy, there reigns the misunderstanding concerning the paternal function. For him, the father can only be inadequate, impotent. This is what he constantly re-enacts, class after class, so as to avoid being a strict, threatening father, in a word, a castrator.

Note the terms he used: "rigorous", "give warning", "you aren't working hard enough", "let them sin, discourage them".

Jean-Christophe prefers to leave the decision-making to the staff; let them "wield the axe", he insists. In fact, these two parental images that he enacts in his position as

teacher are characters in his internal world, in particular this inadequate father, that he compulsively re-enacts, and which triggers in his pupils aggressivity towards him. No doubt his personal history led him to interiorize this misunderstanding. A father could only avoid being a castrator by being impotent and a mother could only be over-protective.

Now my hypothesis is that, in the position of teacher, it is partly a question of assuming sometimes a function of a maternal nature, sometimes a paternal function. In any case, it is a question of combining these two functions in a well-balanced way, but the two distinct functions should be "well understood":

- the maternal function is certainly reassuring, supportive, but also helps the pupil and accompanies him towards self-sufficiency, or in any case, provides him with a protective environment in which to try out his self-sufficiency without too great a risk;
- the paternal function gives structure and backbone to the establishing of a framework of reference and of limits, which facilitates the emergence from the maternal environment, without being excessively repressive.

The rest of the material from the session was concerned precisely with the question of frames of reference and limits and Jean-Christophe admits to the group that he has a lot of problems with these questions.

The question of frames of reference in particular is a very sensitive point for him. This is how he expressed himself during the session. Ghislaine speaks first: "There are teachers, who say, "but then if we can't hang on to grades, what can we hang on to?" " and, speaking directly to Jean-Christophe: "Don't you have those reference points?" After a short pause, Jean-Christophe: "I think I did mathematics because I thought it helped you find your bearings in life. It doesn't help you find your bearings in life at all. So it isn't much use."

- G. And in space...
- J.C. Oh in space, in time, all that, that's a lot of nonsense as far as I'm concerned. Those are not the sort of reference points that can guide us.

And the discussion moves on to the question of reference points:

- G. In mathematics, a frame of reference is something you choose. In life it's the same, it's something you set yourself. It's not something that is determined by others.
- J.C. Then it must be that I have trouble setting them for myself.
- G. Yes, because for me, that's how I see it; in relation to certain things, I have reference points. They're mine, not my neighbour's.
- J.C. Ah?
- G. Not necessarily. A reference point can be changed. You can change your reference point.

Then a humorous note creeps in:

- G. You can choose; by translation, by rotation ...

- J. I remember, May 11th 1981 (the election of F. Mitterrand), I wrote on the blackboard "change of axis". Everybody was laughing behind me... I didn't get it. Then I understood.
- J.C. Do you think your choice was completely innocent?
- J. Oh yes, yes. In any case, I wasn't expecting any change of axis!

Finally the discussion came back to grading and Jean-Christophe made associations with an episode that had happened in one of his problem classes and which was to be the object of particular attention for the group.

- L. ...In fact, the choice is already determined by the whole cultural context. Well, we all have the same one. You say, "we choose our own reference points, we are completely free".
- G. A grading scale is a line of reference with only one dimension.
- L. Yes, but the criteria...
- J.C. As we don't all have the same ones and we don't say so, how can we know where we stand? That reminds me of just now, a pupil from the quatrième (8th grade) who said to me, when I said the  $x$ -axis and the  $y$ -axis, "but why can't we go in this direction?" There's no reason to choose one rather than another. It's only that everyone works like that "And what if I want to work differently?" That really got me angry. So I said to him: "Well, listen, if you do that no one will understand you and you'll end up with a zero in the troisième (9th grade)".

Gradually, incited by the others, Jean-Christophe came to tell us what in fact lay beneath this episode for him.

Indeed everyone in the group had felt the disproportion in Jean-Christophe's tone and anger in relation to the actual content of the pupil's question, a question which a mathematics teacher is used to answering and which can even be a good opportunity, some say, to clarify the conventions which have to be accepted if one wants one's mathematics to be recognized by others.

But the context was missing, and Jean-Christophe gradually revealed it: the context which put the question in the mouth of a particular pupil; precisely "the sort of pupil who is always doing what's forbidden, is always doing the worst..." and which meant that, from the outset, Jean-Christophe could not hear his question as a genuine question worthy of an answer, but like:

- J.C. I think there was certainly an element of: "Good, I've found a question that will get on the teacher's nerves" Anyway, that's how I felt it, it was just to disrupt the class.

Let me note in passing that in this kind of work, where it is not a question of becoming a "therapist for the pupils", which is so much easier than questioning oneself in one's role as mathematics teacher, what interests us is not the pupil's question itself, but what the question "does" to the teacher. We therefore suggested various interpretations of the question to him to contrast with his own.

For example, Ghislaine suggested a very positive interpretation of the pupil's question:

- G. And then, at the same time, it's quite healthy. It means he doesn't want to conform to the norms.

And Louise went on:

- L. Yes, I mean, as far as his reasoning is concerned, it's interesting that this pupil should want to choose; that choices that aren't exactly scholarly should come to their mind. That's not a bad thing".

Then Jean-Christophe said that for him;

"There are so many things that aren't scholarly coming into the class... that...er..."

And he managed to go further into what this awakened deep within him;

- J.C. I would like to see those pupils conform to the norms a bit more often, because that's what's missing for them. Even when you were saying, I choose my own reference points, well that's one of my problems too. I'll set myself limits: 8:20. At 8:25 I say, Oh it doesn't matter, I've still got time. The way, the work I do on reference points, is precisely to say I don't choose them. They come from the outside, or at least, once they're chosen I'm not going to go and change them whenever it suits me. Precisely the fact that I allow myself to change them, what can I say, it's a factor of anxiety for me. That's another reason why I reacted so violently to the pupil who said: "Why can't we change them?"

It couldn't be clearer. Here is a question from a pupil that has gone to the heart of a problem that the teacher has not yet resolved. And the session continued with some new material concerning the pupil, provided by Jean-Christophe:

- J.C. I'm practically sure that this is the pupil who, every time he's done something stupid, his big sister comes to defend him... That is, for example, three days ago, he had cut class, and the headmistress had decided that the pupils who cut class and who were there in the morning at eight, but by nine had disappeared, that they would be thrown out, with...er... that they'd be taken back the next year, provided the parents came to register them and, well, the *surveillante générale* (dean of discipline) phoned the parents and asked, How come your child isn't here? And the cocky little kid turned up with the sister to stick up for the family's little darling. And very often he's done something stupid and the parents have come and said: "The punishment isn't justified, it's excessive".

It's as if we were seeing a scene in a film. Here is the rebellious son, defended in his transgression by the women of the family, coming to contest the law laid down by Jean-Christophe. Now, in his fantasy, Jean-Christophe

would like to be a father to his pupils. Everything is in place for him to be deeply disturbed by this apparently banal incident.

I could feel the emotion coming to the surface, so I said to Jean-Christophe:

- So what does this re-actualize for you?
- J.C. Well, in fact, how can I say ...it's, er... here there is a limit but it's as if there wasn't one, in fact, because if the institution say: "You don't have the right to do this and if you do this you will be punished" and if a member of the family comes up afterwards to say "No, there's no need for punishment", that means that in fact...
- L. It works. If it works, why shouldn't people make the most of it?
- J.C. Well, it works, to some extent, yes it does. It works to some extent, and that's the most scandalous thing.
- G. So, you see, in what you've just said, there are limits, but in fact there aren't. It reminds me of what you were saying just now. Right, I'll do this until 8:20. It reminds me of that.
- J.C. Yes, it's exactly the same thing
- G. So why does it bother you in the kid?
- J.C. In others?
- G. Yeah. Since it's something you do yourself. On the contrary, you ought to be pleased to find something in common.
- J.C. That's just it, it's something I'm trying to clarify or to stop being stifled by. So I react in that way.

This dialogue is sufficiently explicit to make comment superfluous. And this session ended like this:

- J. When you say: "I don't want to be stifled by it", it's that, basically, you feel that not respecting limits is stifling you. You would have thought it was a freedom you were granting yourself.
- J.C. Ah well, absolutely, yes.
- J. And in fact, it has a constraining aspect.
- J.C. It's exactly the opposite. You can't do anything seriously or thoroughly.
- L. ?
- J.C. Yes, but there is nothing left, nothing constructive, well, I'm exaggerating, it means that it makes no difference, in fact, whether I come or not, it's the same. It's not a freedom at all. In fact, freedom is relative to non-freedom. Now, in fact, when you don't have any rules, you are free all the time and everywhere. So you can't appreciate that freedom.

Let's note here how the space between the teacher and the pupils is cluttered with projections; how a banal question concerning the lesson, placed in a certain context, is heard by the teacher as a provocation and how when that question-provocation goes to the heart of a very sensitive problem for the teacher, it triggers a reaction from him, the violence of which is in strong contrast to the apparent banality of the question.

This has given us a glimpse of the type of work I wanted to illustrate and which is woven into the group as we go along.

A part of the material provided by Jean-Christophe, over the three years, centers on the fantasy of being "a father to his pupils", but presents us, in a repetitive fashion, with the image of an impotent father, flagellated by his pupils. In fact, after a certain period of work in the group, about half-way through, Jean-Christophe provided a new fantasy. This time, he saw himself as Zorro when he came into the classroom. Now Zorro is a two-sided character: on one side, in the daytime, the obedient son of a relatively impotent father, unable to help the weak. In fact, Zorro takes on something of the daylight, he has to remain the obedient son, so as not to risk revealing the father's impotence.

Here is a new ideal for Jean-Christophe: to be Zorro when he comes into the classroom. It is likely that the appearance of this new fantasy represents a step forward in Jean-Christophe's development. However, there is still work to be done to diminish the gap between this ideal image and the image of a weak teacher reflected by the pupils.

Let us note, nonetheless, that the work in the group has allowed Jean-Christophe to have insight into these fantasies which are influencing him and, as a result, has contributed to the development of his relationship with the pupils, whereas all the pedagogical advice, that he admits he occasionally requested, had shown him how to "control" the pupils technically but, when he applied this advice, "it didn't work".

We know a bit better now that there was something within him stronger than his will to do as he had been shown

Despite the inadequacy of words to express the richness and subtlety of the phenomena this type of work depends upon, I hope I have been able to suggest that it is possible for a teacher to develop on a level that is normally beyond the reach of usual means such as pedagogical guidance or the teacher's own will to change: a development that can lead him, not to a hypothetical norm of the "good teacher" or to a complete mastery of what happens in his class, but towards a permanent capacity to elucidate what is at stake for him in certain episodes in class. This development leads him to be less "split" inside himself and more flexible and alive in his exchanges with the pupils.

Of course, this work can only be done within a rigorously thought-out framework certified by a leader who is required continually to reflect on his own implication in the group and on the problems of each of the participants, as well as on the technical modalities of directing the work to be done.

## References

- ABRAHAM, A [1982] *Le monde intérieur des enseignants*, Editions ERES, Toulouse
- BALINT, M [1980] *Le médecin, son malade et la maladie*, Petite Bibliothèque Payot, N° 86, Paris
- BLANCHARD-LAVILLE, C. [1989] De quelques considérations épistémologiques à propos des méthodes de recherche en didactique des mathématiques, *Interactions didactiques*. N° 12, Genève