This article examines the learning experiences of 3 teachers of English as a Second Language (TESL) as they attempted to encourage productive thinking in 36 preservice student teachers by increasing creative, critical, flexible, and reflective thinking. They also sought to make the student teachers more assertive and less shy. These changes were attempted through a treatment cycle which incorporated sociodramatic techniques, encouragement towards independent thinking, self-expression, self-reliance and heightened self-esteem. Barriers to creative thinking included: (1) peer pressure; (2) authority pressure; (3) previous experience; (4) mismatch of teaching and learning styles; (5) examinations and assessment; and (6) feelings and fears. A discussion of the reactions of students to this intervention and its effectiveness follows.
Developing Productive Thinking in Preservice Student Teaching

Hyacinth Gaudart
DEVELOPING PRODUCTIVE THINKING IN PRESERVICE STUDENT TEACHERS

Hyacinth Gaudart

Introduction

More than two decades ago, Torrance (1970) held that it was possible for thinking skills to be developed and that productive thinking was "susceptible to improvement through educational experiences." (p. 35)

In language teacher education, however, thinking skills have been taken for granted for too long as teacher educators concentrated on training perceived skills which they felt student teachers needed. But, as Richards (1990) says, there is more to teacher preparation than skills training. The development of teacher qualities requires activities that move beyond "training" and seek to develop the teacher’s awareness and control of the principles underlying the effective planning, organisation, management and delivery of instruction. (Elliot, 1980, as cited in Richards, 1990).

One could, therefore, propose a plan for language teacher education which would have five major purposes to it. These purposes would be: the consolidation of positive attitudes; the development of thinking skills; the introduction of a firm knowledge base; the development of teaching skills; and the development of survival skills.

The scope of this paper does not allow me to go into all five purposes, and we will therefore only consider the development of productive thinking skills.

This paper will describe the learning experiences of three TESL teacher educators (one of whom is the researcher) as they attempt to encourage productive thinking in thirty-six student teachers. It will discuss their success and failures and the problems encountered both by the teacher educators as well as the student teachers as they become more productive thinkers.

I see the process of increasing productive thinking in teaching as the intentional inclusion of the introduction to, and development and maintenance of critical, creative and flexible thinking. This should apply not only to lesson planning, the execution of the lesson, and in problem solving, but beyond that to
other areas of community living and life itself. It is not sufficient then, for the teacher to be merely creative. His creativity needs to find expression in his teaching and his whole approach to life.

In our current study we have found that most of our student teachers, at the time of entry into the teacher education programme, had never previously been encouraged to think. We cannot assume, therefore, that student teachers are naturally capable of independent or reflective thinking. We might need, first of all, to teach them how to think. A way to do that would be to use teaching methodology aimed at "learning to think and learning to learn", and also to consciously incorporate productive thinking into teacher education programmes.

Initial Attempts at Improving Productive Thinking

Our first attempts at developing productive thinking were targeted at Diploma in Education students who attend a nine-month teacher certification programme after completing their first degrees. We were guided by principles taken from the manual for teachers, Rewarding Creative Thinking developed by Torrance and his colleagues, as referred to in Torrance (1963: 31). These principles included:

1) treating questions with respect
2) treating imaginative, unusual ideas with respect
3) showing students that their ideas had value
4) giving opportunities for practice or experimentation without evaluation
5) encouraging and evaluating self-initiated learning
6) tying in evaluation with causes and consequences

To these principles the following principle, influenced by various scholars in reflective thinking, was added:

7) encouraging reflection in teaching.

But the first attempts met with limited success.

Firstly, there were very few questions from students. There were also very few imaginative or unusual ideas! As students were shown that their "ideas had value", they became in fact, more complacent, and even less likely to move towards experimentation, no matter how much they were encouraged to do so.
The teacher educators realised that, unlike very young children in schools, because student teachers came to us with ways of thinking which had been instilled into them over many years, it was difficult to attempt drastic changes in only a few months. The student teachers had had at least twenty-one years of life before us. What we were planning to change had to take place in nine months.

It was also very difficult to teach student teachers to reflect upon their teaching. They were, instead, very defensive. When probing questions, intended to set them thinking about their planning or teaching strategies, were asked, instead of answering the question, they would defend whatever they had done. The problem then was whether to insist that they answer the question and so push them into a corner, or "show respect for their ideas." In the end, time became the deciding factor and short cuts won the day. The supervisor took over the class to "show another way it could be done" and the student teachers were instructed to try new ideas.

The Current Study

Background

When the Faculty of Education, Universiti Malaya started the Bachelor of Education (TESL) programme three years ago, it was an opportunity to attempt to increase productive thinking in student teachers.

The programme, unlike the nine-month Dip.Ed programme, is a four-year degree programme. It has five "strands" to it. Three of the "strands" are being taught by lecturers of the Faculty of Education. The three "strands" are: Education courses, the TESL component (including Linguistics-related courses as well as methodology - 5 hrs a week X 7 semesters + one semester of teaching practice); and courses to do with their "Second Method" (Minor) (which they select from Art Education, Physical Education and Moral Education). Besides these courses, the students take courses in English Language proficiency from the Language Centre (8 hours a week X 6 semesters) and courses in English literature (4 hours a week X 7 semesters).

At the start of this academic year, using a glossary of common modes identified by Wallace (1991(a)) as a checklist, a wide variety of modes (twenty-five) were identified by sixty student teachers as applicable to the teaching techniques of their teacher educators. Much of the variety occurred, however, during the language proficiency and TESL components of the course. The Second
Method lecturers employ some of the techniques and so do the Education lecturers. The variety does not extend into the English Literature courses which are, apparently, mainly lecture-based.

Using research methods from action research (Hustler et al., 1986), and introspection (Faersch and Kasper, 1987) the study set out to see if it was possible to a) increase productive thinking through increasing creative, critical, flexible and reflective thinking in preservice student teachers and b) make them more assertive and less shy. These changes were attempted through a "treatment cycle" which incorporated a) sociodrama techniques, b) encouragement towards independent thinking, self-expression, and self-reliance, and c) heightened self-esteem.

Sociodrama as a teaching technique was selected for various reasons: a) It allowed the student teachers to create something for which there had been no previous blueprint. It therefore allowed for creativity. b) It could be tied in easily with language teaching and the same techniques used in teacher education could then be used in the language classroom. c) It was easy to justify its use in TESL courses.

One way which was used to ascertain if the student teachers had indeed improved in productive thinking was to administer one of Torrance's tests of creativity, the circle task (Torrance and Ball: 1984). However, despite the use of the circle task, it needs to be mentioned that tests of creativity were not the sole instruments for assessing changes in productive thinking. Results were interpreted more from a qualitative than a quantitative point of view. Assessment of whether ideas in lesson planning were innovative, was based on the opinions of the teacher educators as well as the students themselves. "If we accept the premise that adult learners are self-directed, then learners are the ones who will know best if they have satisfactorily accomplished their objectives." (Patterson, 1986:104)

The "Treatment Cycle"

In the treatment cycle which we employ, there is a two-way input, interaction and experimentation between the teacher educator and the student teachers, as shown in Figure 1.
Figure 1. A treatment cycle for raising productive thinking in pre-service student teachers.

- Staff and administrators
- Peer group
- Previous experiences, Scholarship
- Matching teaching and learning styles
- Modelling, Instructing, Demanding
- Previous Experience
- Feelings and fears
- IDEAS
During the output from the teacher educator to the student teachers (which, for want of a better word, I refer to as the "teaching cycle"), a teacher educator draws from his own previous experiences as well as from theory, and provides the output or guidance to the student teacher. This can take two forms: as a direct output in the form of modelling, instructing and even demanding, and as an indirect approach in the form of techniques aimed at independent learning and thinking, self-awareness, creativity, self-esteem, and so on. Our experience with the thirty-six students indicates that the indirect approach on its own cannot be as effective as employing both approaches. On the other hand, the direct approach on its own is a sure way to trauma for both the teacher educator as well as the student teacher and is aimed at producing non-thinking automatons.

During the teaching cycle, the teacher educator needs to self-assess his own teaching, reflect on the processes he is using, and be prepared to constantly experiment with new methods and techniques of teaching. He will be, to a large extent dependent on the output from the student teachers, learning from them as much as they learn from him during the interactive process.

The student teacher, meanwhile, besides being involved in the interactive process with the teacher educator, should be free to experiment with his own ideas, become aware of his strengths and weaknesses, reflect on his teaching, adjust, experiment, be aware of what he is doing, reflect, and so on. Student teachers need to be encouraged to reflect upon their teaching and adjust their practices for what works for them and their learners.

It is also at this stage that students are encouraged towards classroom-based research. It could be action research (Hustler et al, 1986), or some kind of qualitative study, or combinations of different types of research including introspection (Faerch and Kasper, 1987).

The experimentation cycle should start happening at least during micro-teaching, or even before then. When it is introduced would depend on the readiness of each student teacher, as long as it is not introduced after actual classroom teaching takes place, or at the end of the course. The student teacher will not be able to try out new ideas if he is about to leave the programme.
General Profile of the Students

There are 168 students involved in the study at present. Data from tests given to all 168 students will be taken into account when discussing originality of ideas among the students. However, it will not be possible in the scope of this paper to discuss all 168 subjects. This paper will therefore concentrate on the overall development of thirty-six students, and draw specific examples from seven case studies. The thirty-six students have just finished their third year of the B.Ed. programme. They will be going out on teaching practice in July 1992.

The data have been obtained from my observations and those of students and other staff members, interviews with staff and students, as well as from introspection regarding my own interaction with the students in question. I have taught eight of the TESL courses.

When the students first entered the programme, there were two distinct groups in the class. One group had been taken in from the STPM classes ('A' levels, Form 6, Grade 13), another group had come from the matriculation classes at the university itself. The groups unfortunately were also divided along ethnic lines - Malay students from the matriculation courses; non-Malays and Sarawak Pribumi students from the STPM classes. While three of the STPM students were cheeky and enjoyed back-chat, none of the matriculation students were that way. Most of the class were subdued and ready to absorb whatever was conveyed to them.

The Process

There are seven TESL teacher educators who have been in contact with the thirty-six subjects these last three years. However, only three have been involved consistently with the target group. These three teacher educators (including me) are the teacher educators referred to in the following sections. They are responsible for tutoring groups of between seven to ten student teachers.

In dealing with the student teachers, the TESL teacher educators first of all try to create a close relationship between themselves and the student teachers. Torrance (1970) points out that to be able to empathise and recognise the full potential of a learner, the teacher must genuinely get to know him. This is what the teacher educators attempt to do.
It is, however, easier with some student teachers than with others. Barriers need to come down and this can be done in different ways. One teacher educator sits on the floor with the students, talking to them at the lunch hour. Another takes them out to breakfast or lunch to discuss their problems. Yet another, who lives in one of the residential colleges, encourages them to visit and chat. The role of the teacher educator at this stage is that of a consultant and friend.

All three teacher educators consciously attempt to encourage each student teacher to develop his or her own teaching ideas. When an idea does not turn out as the student teacher planned it, the teacher educator praises the student teacher nevertheless for her courage in attempting something new and challenging. When the student teacher reflects on her lesson and, recognising weaknesses, tries a different technique, no matter whether the technique succeeds or fails, the student teacher is praised again. The student teacher’s effort at learning is therefore seen to be just as important as the conduct of the lesson itself.

The teacher educators allow student teachers to approach them at any time of the working day, and informally schedule conference and social periods. For example, my students are taken out for an occasional meal or "ice-kacang". Often fruit, cake or sandwiches are brought in during classes, and even during examinations.

The thirty-six students have been encouraged to practise different thinking skills since their first semester. The focus on the particular thinking skill often depended on what was being taught. For example, linguistic analysis was used to encourage analytical and constructive thinking. English across the curriculum, a general knowledge course, has as its major aim, the development of thinking skills and was therefore used to develop critical, independent, logical, liberal, creative and constructive thinking, and so on. The majority of students were eager to learn and this made it very easy for the teacher educators to channel student efforts into self-learning activities.

But in such a class climate, it is also very easy to be carried away by the enthusiasm of the majority. Because those who preferred an independent learning style and problem solving were more vociferous, the more dependent learners were neglected. For example, although I was aware that there were some who were not as capable of problem solving as the others, I failed to realise that there was a widening gap growing in the class between those who were independent thinkers and those who were more used to a teacher-centred classroom. Because the teacher educators, including me, were swept along by the enthusiasm of those who wanted
to learn through problem-solving and independent study, twenty students who were still floundering, floundered even more and were only capable of mediocre work.

The following semester, therefore, pains were taken to ensure that those who were "reluctant thinkers" be encouraged to have and express opinions of their own. The independent thinkers continued to progress rapidly, and dominated the class. But gradually, except for four students, others became more willing to express their own opinions.

But, as the number of independent thinkers rose, so too did problems of socialisation which had been simmering for some time. While the students did well in class, their life on campus was not so easy. The student teachers found themselves in confrontation with other students in the university and also with staff members and administrators who considered them "cocky". Torrance (1963:11) said that "To be creative is to be unpredictable, and the unpredictable always makes us uneasy. ... The uneasiness and uncertainty of the administrator may find expression in feelings and even actions of hostility toward the creative teacher." This has definitely been proved true for the TESL students.

First there was rejection by students in other courses on campus. The TESL students responded by becoming a close-knit group. They even developed their own argot or secret language in retaliation against the other students. Over the last three years, complaints by other students have been lodged against the B.Ed. TESL students of all three years, protesting about their behaviour, their "rudeness", their social preferences and "liberal" attitudes.

In the third semester, for example, an interesting phenomenon occurred which involved the pioneer group. They had a lecturer who did not tolerate creativity or independent thinking and constantly put the students down in class.

The students and the lecturer were in direct confrontation. Twenty students, who were more assertive, continued to argue with the lecturer, or ignored her and "switched off", using the time to do other assignments. Others sat there and seethed. Twelve others went back to their previous behaviour of non-independence, suppression of ideas, and submission to and dependence on the lecturer. There was a third group (of eight) who really did not mind the behaviour of the lecturer at all. They felt she was only trying to do her job.
But the overall climate in the class was non-responsive. The lecturer was constantly met by frozen silence and blank stares. She got annoyed, yelled at the students, they froze more, and the cycle went on. It was unfortunate for the staff member that the eight students who thought she was only doing her job were also the most timid and unresponsive in the class, so she got little support.

The following semester, two types of behaviour were noted in the class. With TESL lecturers they had known before, the group was still prepared to air their opinions. When faced with a new lecturer, however, they were cautious and unwilling to participate in learning tasks.

The positive outcome of the confrontations was that by the end of the second year, ethnic barriers had broken down completely as the student teachers saw themselves allied in "them" and "us" situations.

At the start of the 1991/92 academic year, (the third year for the pioneer group), we began the year prepared to work with enthusiastic, lively, intelligent student teachers as the first practical sessions of student teaching began. When we started simulated and micro-teaching sessions, however, we found that, in our opinion, their micro-teaching lessons were, on the whole, mediocre. The promise they had held out in more theoretical courses was not being realised. Despite having been exposed to different teaching techniques in the previous two years, they were unable to make the transfer of techniques on their own.

Teacher educators adopted strategies to try and improve their teaching - strategies reminiscent of the reflective approach (Wallace, 1991). However, the teacher educators found that while the better students could be easily prompted into being reflective, it was more difficult with the weaker students. (Here "weaker" students means those who do not perform as effectively during micro-teaching. They appear to be less creative, are less able to put their ideas across and are unable to plan and sequence a lesson). All the teacher educators have had to be more "instructive" with the weaker students.

At first it was thought that there was a correlation between proficiency in English and students who were "weak" in the presentation of their lessons during micro-teaching. But, although this was true of many of the "weak" students, there have been exceptions. Among the thirty-six, there are students with native-like ability in English who could have done better in practical teaching sessions. We could not therefore, dismiss the "weak" students as simply being less proficient in English. Other reasons had to be found.
In the fifth week of the first semester, one of Torrance's tests of creativity, the "Circle Task" (Torrance and Ball, 1984), was given to all 168 students. During this task, students were given 30 circles. The instructions asked students to make as many objects as possible by adding lines inside or outside the circle, or both inside and outside.

Because the subjects are student teachers, I felt that a task which reflected creativity in lesson planning might also be interesting. The students were therefore also asked for their reactions if they were required to use a stone or a bottle cap as a teaching aid in an ESL class.

From the alternatives offered, no student felt that the task was impossible. Four students ticked off "Panic"; twenty students ticked off "Think hard"; and eight students ticked off "Immediately have ideas you can use." Four students chose not to hand in their responses.

In the second semester, all students had to take the elective: "Using Drama Techniques for Teaching English as a Second Language" and also "Cocurricular activities for TESL," which had a heavy theatre component.

At the start of the semester, the thirty-six students were given fifteen minutes to list down as many ideas as they could as to how they would use a stone or a bottle cap as a teaching aid. The number of ideas listed by the students ranged from two ideas (3 students) to nine ideas (1 student).

Students were also asked to write their reactions to how they thought they would enjoy the drama course. Only nine students said they were looking forward to the course. The others all expressed reluctance, nervousness and/or anxiety. Only twelve students would have chosen to do the course if it had not been made compulsory. Below are some of their comments:

A: I am rather scared and terrified. To tell you the truth, I nearly come [sic] to tears yesterday.

B: My first reaction was, "My God! What are the Faculty people trying to do to us?"

C: I'm a little bit nervous of the creativity part ... what if I don't have ideas?
The course in using drama techniques to teach English was conducted in an experiential manner, during which the student teachers acted as language learners of different levels. They then experienced activities stemming from four types of drama techniques: games, role-playing, mime and simulation. They were then encouraged to create their own activities. Their presentations were lively, exciting and creative.

In the second test, given at the end of the second semester, despite being given only half the time they had had during the first test, most students scored higher in fluency, and creativity in the circle task and with the use of a stone or bottle cap as a teaching aid. The highest score for creativity was 11 unusual ideas. Four students had the same number of types of objects in the second test as in the first test, giving them the same score for flexibility in both tests. Four students had lower scores, but, as has been pointed out, had been given half the time.

For using a stone or bottle cap as a teaching aid, in five minutes (as compared with fifteen minutes given previously), the least number of ideas was four (1 student) and the most number of ideas was 10+ (+ indicating that they had more ideas but could not write them down fast enough in five minutes).

When asked to comment on their feelings at the end of the course, there were positive comments from all students. Here are some of the comments from those who had entered the course with negative feelings:

A: "I now feel more open towards friends."

B: "The classes made me lose my inhibitions and at the end of it I have a 'The heck with what others think! I'm having FUN!' attitude."

C: "I feel 'released'."

D: "I enjoyed the lessons. We never knew what we were going to face next! Good things never last!"

Every student expressed a loss of nervousness and inhibition and wanted the course to continue. Pleasure and satisfaction was expressed by everyone. There was very little absenteeism although one student came about ten to fifteen minutes late on three occasions.
The personality of many of the students and their attitude to life has also changed. They are much more open in their thinking and are less shy. They enjoy verbal sparring with lecturers, something unheard of before, and no longer feel afraid of speaking before an audience.

One cannot attribute the changes in personality and thinking to just one or two courses. However the student feedback indicates that they consider the two drama courses significant to their personal development and the TESL methods courses significant to their professional development.

Factors Working Against Creativity

However, any teacher educator who attempts to develop productive thinking in student teachers needs to be aware of forces contending against the process. In our study, we found seven major forces working against the development of productive thinking.

Peer Group

While they are with the TESL lecturers, student teachers are being urged to be more innovative, experimental and reflective. Once they have to interact with other students on campus, they have to pretend not to be independent thinkers, and pretend to go along with what the majority of students think and feel.

Authority Figures

Frustration also comes their way from authority figures on campus. These include administrators and lecturers.

Questioning techniques, for example, reflect, in the minds of the students, what lecturers really expect of them. Here is one example given to me by a student:

A lecturer of a course in English Literature, when interpreting a line of poetry says: "This means ...(explanation) ..." She then asks the students, "What does this mean?" The students have interpreted such a questioning strategy to mean, "Tell me what I just told you."
Previous Experiences

Students say that they have been asked to try out new ideas, but when they do, they are told that the ideas are too "way out". At other times, some have been told that their ideas are not practical. As a result, students have been taught that the new ideas should conform to what the lecturer has in mind.

The result is that, instead of trying out innovative ideas, they try to mind-read what is in the mind of the lecturer, giving the lecturer what they think the lecturer wants to read or see.

Mismatch of Teaching and Learning Styles

All too often the student is expected to conform to the teacher educator's teaching style. For example, I expect student teachers to be independent, creative and reflective thinkers. If they prefer me to tell them what to do, my reaction to them is less positive than it is towards independent thinkers.

The opposite is also true. There would be supervisors in other subject who would demand conformity. This would mean that the students who are creative and independent thinkers would be the ones to receive low grades for non-conformity.

And this takes us to the next factor, examinations and assessment.

Examinations and Assessment

Assessment puts constraints on both the mentor and the mentee. From being a confidante, the mentor has to be the assessor.

Just the examinations themselves are a severe strain on the students. A (not her real name) says she feels the pressure because she has done well the last two years and feels she needs to continue to do well. A few weeks before the examinations, she started trying to read the minds of lecturers to try and second-guess them.

And that takes us to the final major obstacle common to many students and tied in with assessments and examinations - feelings and fears.
Feelings and Fears

Perhaps because of all the factors above, certain emotions and fears within each student teacher act against his achieving his full potential. Four types of feelings are of interest in this section: fear of failure, ambition, jealousy and anger.

One example of students' fears, for example, can be illustrated through two students, Doi and Eli (not their real names). Doi and Eli have native-like proficiency, scored high on the tests of creativity and are capable of lateral thinking. But when it comes to lesson planning, although they do have ideas of their own, at first, what they actually offered learners came from books. During discussions it was revealed that they were both afraid to experiment. They were afraid of failure. Questions to prompt them into seeing the mediocrity of their presentations revealed that they, too, considered their lessons mediocre! They could critically assess (positively and negatively) their own and others' lessons and even offer very good suggestions for improvement. Yet, when they planned their next lesson, they once again reverted to the mediocre.

Doi is also interesting in that lessons which were planned in simulated teaching to peers were much more experimental than lessons which involved real learners. It appeared to me as if, once confronted with real learners, he reverted to being cautious, afraid to make mistakes. He disagreed.

The following is part of our conversation:

Doi: I know you're assessing me. That's why. It's not the students. They're okay.
Me: Well, I'm afraid the difference between being an average teacher and being an inspiring teacher is going to depend on your willingness to experiment and try out new ideas.
Doi: What if the lesson is a flop?
Me: Does it matter if it is?
Doi: I don’t know. Does it?
Me: Why should it fail?
Doi: I don’t know how the students are going to react.
Me: You're flexible. You'll think of something. ... And anyway, even if it does fail, the important thing is for you to learn from it.
Doi: Can I change my lesson plan if I feel it's not working?
Me: Sure.
Doi: You see! That's you! Some others may not be so easy.
It was only then that I realised that, while at the back of my mind I was aware of competing forces in the students' lives, I had not really confronted the problem of teaching students to deal with those forces. As the students did micro-teaching in two different subjects, they were being exposed to different demands. Another student, Bet (not her real name) explained that in her second method, two teacher educators were working with them. One liked creativity, the other frowned on it. They had to plan work to suit the lecturers in question.

This meant therefore, that they were not really teaching according to the force of their convictions but according to what the lecturer looked for. Since I wanted to see evidence of thinking, they gave it to me. With someone else who wanted to see the teacher use proven techniques, they tried to perform accordingly.

The following is an extract of a conversation with two students, Bet and Cay:

Having been praised for a particularly innovative shared lesson one day, Bet said, "It's so hard being creative."

Cay: "Yeah."

Me: "Because you have to think and generate ideas?"

Cay: "That's the easy part."

Bet: "The hard part is dealing with those who don't want you to be creative."

It becomes clear that for originality to occur, much would depend on the personality and commitment of teacher educators as well as on their knowledge and teaching styles. The teaching of productive thinking calls for an unfamiliar sort of role for some teacher educators. There are those, for example, who have long been in a system where roles between students and lecturers have been well-defined. They see themselves as authority figures and see any attempt to modify the roles as a rebellion which needs to be squashed as early as possible.
Conclusion

Should student teachers then be taught not only to think but also to reconcile their roles with the expectations of teacher educators? Or should teacher educators be made more aware of differences in student teachers?

With the knowledge explosion facing us, it is no longer sufficient for teacher educators to "pass on knowledge". Instead every student teacher needs to be taught how to learn and should want to continue learning not just from books, but from all media, from other teachers, from his students, from parents, from the world itself, and lastly, and possibly most importantly, from himself. He needs to be taught the skills of self-examination and experimentation. He must be assured that it is all right to make mistakes for it is a way he can learn. He must feel that he has access to knowledge: and that he must chase it because it will not chase him. He must, in other words, be taught to take the responsibility of learning into his own hands, to be an independent learner, while also learning how to survive in the real world.

Torrance (1970) pointed out that creative people are annoying beings. They don't conform. They are "different". They are not "disciplined" and attempts to discipline them fail. When you have undergraduates in a particular programme moving in such a direction, administrators who are bound by rules and regulations are understandably less likely to tolerate non-conformists. As Strasheim, (1971) says, we can liberate and loose the teacher's creative powers, but we shall find neither absolutes nor comfort in the process.

The pain teacher educators share with the creative students sometimes raises the question as to whether all these attempts at developing thinking skills are worth the trouble. Should we simply let the students be? Would they not be happier if they did not think for themselves? Are we, in fact, creating misfits in society?

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