Introduction

This study is an extension of a previous study (Fogarty et al. 1987) that investigated student teacher stress in practice teaching for final year pre-service students in one teacher education program. Stage two set out to discover whether the patterns of stress were similar or different for subsequent third year groups and across different year levels of the one programme. To carry out the study, the team was funded from a competitive research grant from the Queensland Board of Teacher Education.

The initial study was prompted by verbal indications that some students were experiencing stress related to their involvement in practice teaching. Results
confirmed this to be the case for final year students in a three year pre-service diploma course.

The analysis of responses to an initial open-ended questionnaire showed that there were forty stressors that produced stress for some students at least. These stressors were then incorporated into the final questionnaire which was distributed to 95 students at the Carseldine Campus of Brisbane C.A.E. (now Queensland University of Technology).

The questionnaire was designed to measure both the frequency and the degree of stress caused by the forty stressors. The results showed a wide range of student response to the potency of various stressors and the stressor causing the most stress in practice teaching was 'heavy workload'.

Factor analysis of the questionnaire produced five interpretable factors for practice teaching. The factors, ranked in order of their stressfulness from high to low, were:- overload, role ambiguity, relationships with school, busy work, and, interaction with children.

These results indicated that it might be necessary to adopt strategies to reduce these stress levels but before embarking on such a process it was deemed necessary to confirm that the findings were not unique to a single cohort of third year students. The follow-up study was designed to investigate this issue and at the same time find out if the stressors experienced by third year students were significant for students across the three years of their diploma course.

Student Teacher Stress

A review of the literature shows that teacher education students may experience stress during practice teaching and that there are a number of potential stressors. The idea that there are a set of factors which have the potential to cause stress is based on the following findings which show that the student's personality and the context of the
practicum have a
major bearing on this issue.

Abernathy, Manera and Wright (1985, quoted in Hourcade, Parette and
McCormack et
al. 1988:347, and Fogarty et al, 1985) acknowledged that student teachers
experienced
stress and maintained that this occurred at levels at least the equivalent
of those
experienced by teachers-in-the-field. Fogarty, et al. (1985) found that
the majority of
students reported moderate amounts of stress, considerable numbers low
degrees of stress
and relatively few students (8 to 9 per cent) high degrees of stress.
Petrusich (1967)
noted the anxiety connected with practice teaching and also noted that the
anxiety or the
stress of student teaching did not always cease as one gained more
practice. The reverse
may well be the case. Sinclair and Nicoll have stated that:

The stresses and strains associated with day to day teaching
are widely recognized and in the case of the student teacher,
often reach traumatic proportions (1981:1).

Bradley (1984, quoted in Hourcade, et al. 1988:347) suggested that most
student teachers
experienced 'excessive stress' and Hourcade et al. (1988) reported that
while the overall
findings of their study did not support the theory that most student
teachers experienced
excessive stress, it did appear that a significant number of individuals
did so.

The preparation and subsequent implementation of lessons are potential
stressors for
students. Sullivan (1979) and Pettigrew and Wolf (1982) have listed
mastery of the
subject matter for lessons as a cause of anxiety. Thompson (1963) also
included the
making of lesson plans as a potential stressor while Elkerton (1983) found
it to be so for
year two students, but not necessarily so for more experienced students.

How students see themselves and how they relate to others in the practicum
process
influence how well they cope with the situation. Doherty (1980) found that
students with low self-esteem coped less well than their higher self-esteemed counterparts. The low group experienced a higher degree of stress as a result of poor social interaction, lower teaching competence and less success in the academic component. This manifested itself in more psychosomatic symptoms and a higher absence rate from practice teaching.

Other factors influenced by personality include high personal expectations and the nature of interpersonal relationships with others in the practicum process. Fogarty et al. (1985) found that relationships with schools was a significant potential stressor. Caruso (1977) found that some students set unrealistic expectations for themselves and are then continually frustrated as they are unable to meet the standards of performance that they have established.

In the course of their practice teaching, Haipt (1980) noted that students are required to form a host of new professional relationships. The quality of such relationships are very important because the interaction with school personnel is a major influence on whether practice teaching turns out to be satisfying or disappointing (Sorensen and Halpert, 1968). Sorenson and Halpert (1968) have also observed that differences between two people's views on teacher role may result in anxiety if one is subordinate to the other. Jones maintained that:

Stress results from the difference between the attitudes held by the student teachers and those of the 'common practices' among the experienced teachers at the school (1982:3).

Fogarty et al. (1985) and Sullivan (1979) noted that student teachers experienced tensions in trying to relate personally to other teachers, to the school system and parents. They added that relationships with College Supervisors were a major source of tension. Sinclair and Nicoll (1981) also acknowledged the influence of the College
supervisor and indicated that the unclear status of students is a potential stressor - they are not pupils, but they are not teachers. This idea is supported by the findings of Fogarty et al. (1985) which indicated that role ambiguity is a major stressor for many student teachers. Pettigrew and Wolf (1982) found that evaluation by administrators constantly emerged as an area of great concern. Hourcade et al. (1988) also indicated that regular and rigorous evaluations by university supervisors, as well as by co-operating teachers and principals had the potential for much stress.

However, what appears to be the major source of stress in inter-personal interactions is the student's relationships with their supervising teachers. Anderson (1971) found that the supervising teacher is the most important factor in the student teaching experience and therefore the relationship between the two is critical. Pettigrew and Wolf (1982) noted student anxiety relative to the standards set by supervising teachers and Sullivan (1979) also noted it as a potential stressor. Caruso (1977) maintained that as student teachers become more competent, the clash between their ideas and style and that of their supervising teachers becomes more intense and the resulting frustration increases their stress levels.

Sorensen and Halpert (1968), besides noting personality differences between students and teachers, found, in their study, that approximately 60% of respondents at least part of the time, disagreed with their supervising teachers about what and how to teach. Jones (1982) suggested how such disagreements may become stressful for students. The stress follows students having to change their approach so that it will be acceptable and lead to a favourable evaluation. This does not present problems for those who change willingly, but it does for those who change unwillingly - they are uncomfortable at having so compromised themselves.

Interaction with 'their' pupils is a further potential area of stress for
students. Elkerton found that:

All students irrespective of their degree of experience with the teacher education programs, were significantly more stressed by their concern for their relationships with pupils than by being evaluated by supervisors or having to facilitate pupil learning (1983:10).

Sinclair and Nicoll (1981) identified "relating to pupils" as a potential stressor. Fogarty et al. (1985) confirmed this potential stressor but found it was a factor which produced low levels of stress. Pettigrew and Wolf (1982) noted that students were most anxious about pupil reaction while Coates and Thoresen (1976), quoted in Sullivan, 1977, directed attention towards students' concern with regard to pupils' liking of them. Such stressors are pertinent during the field studies experience, but other stressors may occur as the period is coming to an end. Caruso (1977) has referred to tension generated by ending relationships with feelings of loss at parting with children of not helping them make the gains that they should have made.

Haipt has also referred to the culminating period of a field studies session:

Finally, student teachers experience the 'conflict of return' as they prepare to withdraw from their placements. They not only find leaving stressful, but also having to return to another cultural milieu and role at their college or university (1980:6).

On the other side of the coin, Hourcade et al. (1988) referred to the introductory period of field studies. They noted that the role reversal inherent in the experience may be discomforting for many students. In a short period of time, they undergo very significant changes from a relatively passive existence as a student in college classrooms to an active teacher in the schools.
Classroom organization and control, and disciplining of children may be sources of potentially threatening situations for students. Sinclair and Nicoll (1981) stated that it is the frightening prospect of losing control of the children that emerges as one of the two central concerns of students. Petrusich (1978), Pettigrew and Wolf (1982) and Sullivan (1979) have made similar statements to Sinclair and Nicoll. Elkerton has maintained that students “felt most stressed by classroom management issues related to discipline and control and in gaining the respect of pupils”, (1983:10).

In a similar vein, Caruso has asserted that:

Children constantly test students' authority, continually throwing them off balance, breeding frustration ... incidents and issues relating to control tend to chip away most often at students' 'sense of competency' (1977:59).

Caruso (1977) referred to the students' incessant appetite for feedback, usually a need just to hear such comments as 'You're doing O.K.'. However, there are times when feedback may be confusing and a potential stressor. As Sinclair and Nicoll (1981) have pointed out, this occurs when advice given by the supervising teacher conflicts with the advice given by college supervisors.

In an interesting observation, Hourcade, et al. (1988) noted that student teacher stress during practice teaching may peak on two occasions - firstly, early in the session and secondly, approximately half-way through it.

Fogarty et al. (1985) investigated whether a number of individual characteristics were related to practice teaching stress. Their analyses were undertaken relative to sex differences, age and general stress levels experienced, but no significant differences were revealed on the basis of these variables.

The preceding paragraphs show that teacher education students may experience stress
during field studies and that there are a number of potential stressors. Indications are that such stress does not necessarily decrease with experience.

DATA COLLECTION

The questionnaire for the study was the one that was developed and used in the Fogarty et al. (1985) study. This instrument was developed using an open-ended questionnaire distributed to half the third year student population during class time to obtain initial data. Students recorded what they considered to be the stressors in practice teaching. A simple tallying procedure enabled a single set of items to be compiled for use in the final questionnaire.

A draft of the 'final' questionnaire was trialled with a group of third year students and minor adjustments were made. The final questionnaire contained 40 items relating to stress in the block practice teaching program.

Participants were asked to evaluate each of the forty "Sources of Stress to Me" items in relation to its frequency of occurrence and its degree of stress. Both areas were arranged on a five point scale. The frequency of occurrence scale used: 5 - most of the time; 4 - fairly often; 3 - sometimes; 2 - not very often; and, 1 - never. The degree of stress scale used: 5 - a lot of stress; 4 - fair degree of stress; 3 - some stress; 2 - little stress; and, 1 - no stress.

The questionnaire was distributed to 598 students comprising 212 first years, 203 second years and 183 third years.

All questionnaires that were distributed were returned. This was due to the manner of distribution. At Carseldine Campus, members of the research team contacted appropriate lecturers and requested them to provide class time for the distribution, filling out and collection of the questionnaire. In all cases, students were advised that
completing the questionnaire was voluntary.

RESULTS

For each year level the collated data was tabulated in rank order by means with related standard deviations for both the frequency of occurrence and the degree of stress.

Frequency of Stress
The table showed that stressor 3 - heavy workload - was the highest ranked stressor for the Year 1 and Year 3 students while stressor 39 - lack of time for preparation - was the highest for the Year 2 students. For the Year 2 students stressor 3 - heavy workload - was ranked second highest, with stressor 3 - number of assignments and activities - ranked second by the Year 1 students and stressor 39 ranked second by the Year 3 students. It is significant to note, also, that the highest ranking mean for the Year 1 students was 3.09, with each of the other groups having a top mean above 4. These results indicate that stress was less prevalent among the Year 1 students than it was among the other groups.

The stressors which were rated above 3.5 for each of the groups were as follows:

a) Year 2
   39    Lack of time for preparation
   3    Heavy workload
   27    Doing work that contributes minimal marks
   25    Number of assignments and activities

b) Year 3
   3    Heavy workload
   39    Lack of time for preparation
   20    Easier to achieve well in some schools than others
   27    Doing work that contributes minimal marks

One way ANOVAS were conducted on each of the stressors to ascertain if there were any statistically significant differences among the three groups. The results showed that 35
out of the 40 comparisons produced significant differences. Scrutiny of the means shows that the Year 1 group was significantly lower than the other groups on each of the comparisons. For 17 of the comparisons, the Year 2 and 3 students had means higher than the other group; for 8 of the comparisons the Year 3 students had the highest means and for another 5 comparisons the Year 2 students had the highest means.

Degree of Stress
The degree of stress results show that the pattern is similar to that revealed in the frequency data. There were no means for the Year 1 students in excess of 3.0, but there were 12 and 14 for the Year 2, 3 students respectively. The stressors which produced means in excess of 3.5 were the following:

a) Year 2
   39 Lack of time for preparation
   3  Heavy workload

b) Year 3
   3  Heavy workload
   39 Lack of time for preparation

Lack of time for preparation prior to the commencement of the practice session clearly emerged as a major stressor for the Year 2, 3 students although it was of much lesser significance for the Year 1 students.

Heavy workload, however, was rated highly by all three groups of students, although significantly less so by the Year 1 students. This could mean that the demands placed upon the Year 1 students are less or alternatively it could indicate that the other students set higher expectations for themselves. An important question that needs to be addressed is the reasonableness of the workload that students are required to undertake.

The results of the one way ANOVA's show that there were 32 comparisons which were statistically significant. In 14 of the comparisons the Year 2 and Year 3 students had the
highest mean; in another 13 the Year 3 students were the highest, with the
Year 2 and 3 students scoring significantly higher than the Year 1 students on stressors
10 (mental tiredness) and 16 (physical tiredness). Perhaps the most noticeable
feature of the data is the extent to which the Year 1 students consistently rated lower than the
other groups.

Discussion and Conclusions
This discussion will focus on the major conclusions of this study, namely that:

. the pattern of stressors found in the earlier study were confirmed in this study;
and,
. different patterns of stressors affected students across year levels.

CONFIRMATION OF PATTERNS FOUND IN THE EARLIER STUDY

Frequency
The three highest stressors for Year 3 students in 1985 were heavy workload, lack of
time for preparation prior to each block practice period and easier to
achieve well in some
schools than others. These were confirmed as the highest stressors in 1989 in the same
order and again, rating above 3.5. A further stressor was added in this
rating band in 1989 (viz.), doing work that contributes minimal marks, which was ranked

If we look further and compare the top 10 stressors in each study we find eight are
common to each list. These common stressors are:

. Heavy Workload
. Lack of time for preparation prior to each Block Practice period
. Easier to achieve well in some schools than others

. Number of assignments and activities
. Different expectations from teachers, school administrators and
lecturers
concerning your performance
. Mental tiredness
Expenses that I incur
- Doing work that contributes minimal marks

Degree
In 1989, two stressors produced means in excess of 3.5, heavy workload and lack of time for preparation. Again, this was a repeat of the results of the earlier study. In 1985, however, there were two additional stressors with means of 3.5 or greater, mental tiredness and different expectations from personnel concerning performance.

DIFFERENT PATTERNS ACROSS YEAR LEVELS

Frequency
A perusal of the means indicated that both Year 2 and Year 3 had four stressors above 3.5; and Year 1, zero. Analyses of variance on this occasion revealed thirty-five out of forty comparisons produced significant differences. For seventeen of the comparisons, the Year 2 and 3 had means higher than the other group. For eight of the comparisons, the Year 3 students had the highest means and for another five comparisons, the Year 2 students had the highest means. From this, the picture was one of the stress building up through the three years of the Diploma in Teaching programme.

Degree
The degree of stress again indicated the different pattern across year levels. The First Year students had no means in excess of 3.0 but there were twelve and fourteen for Years 2, 3 respectively. Analysis of variance and examination of means of stressors confirmed the differing pattern. (By way of comparison the Year 3 group in 1986 had nineteen stressors with means greater than 3.0). There was some common ground in the reporting of lack of time for preparation as a major stressor. Heavy workload also rated highly for all groups except for Year 1.
Conclusion
This study confirms and extends the results of the previous study on student teacher stress in field studies (Fogarty et al., 1985). Clearly there are some stressors that occur with more frequency and greater intensity than others although there are differing patterns according to the year of study in particular. An obvious implication of these findings is that measures could be taken to ameliorate the stress caused by these factors and assistance provided for those whose levels of stress have a detrimental effect upon their performance.

While this study has revealed stressor patterns that operate across different year levels, there are still many questions that remain unanswered. In terms of the model used in the early study, and reproduced below, Figure 1, inquiry into the processes operating at B, C, D, E, F and G, would arguably be worthwhile and desirable. What this study - and the previous study - has done is to provide a tentative map of the territory defined in Area A. Caution is needed in generalising from these results although the present study suggests that the stressors identified are significant.

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