MATURE-AGE STUDENTS - HOW ARE THEY DIFFERENT?

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ABSTRACT

Mature-age students have formed a significant proportion of pre-service students in primary teacher education over recent years. Academic staff have reported a difference between mature-age students and school-leavers, particularly in motivation and achievement. This report examines part of a study which explored mature-age students' views about aspects of teaching science and technology, compared to the views of students who came to university straight from school. It examines, in particular, students' personal feelings of adequacy in teaching science and technology in primary schools.

INTRODUCTION

Universities in Australia consistently reserve at least ten percent of places in primary teaching education programs for students over the age of twenty-one years. In some years, this percentage has risen as high as thirty percent. These students are typically called mature-age students, although their ages may range from twenty-one to around forty-five years, sometimes greater. They are typically selected using general aptitude tests and interviews. The remainder of the students are drawn from school-leavers using selection criteria based on school performance (normal entry). They generally fall into the seventeen to nineteen year age range.

This report examines the differences between mature-age students and school-leavers, in their beliefs and feelings about teaching primary science. Academic staff have noticed differences between mature-age students and school-leavers, and some differences, such as greater motivation, and higher levels of achievement (Skamp, 1989) have been reported. Skamp (1989) found no differences between mature-age students and normal entry students in attitudes to teaching primary science, an aspect investigated in this report.

BACKGROUND

All students enrolled in their first year of a three year pre-service primary teacher education course at the University College of Central Queensland were surveyed in the first week of the second semester. There were 139 respondents, 41 (29.5%) of whom were mature-age entrants to the course. There were 31 (75.6%) female mature-age students, and 82 (83.7%) female school-leaver students. The students had not studied science or technology education units at this time, and had completed ten days practicum. The majority of students were drawn from Central Queensland.
PROCEDURE

The survey used was adapted from that developed by Kirkwood, Bearlin and Hardy (1989) for the Primary and Early Childhood Science and Technology Education Project. Most items were Likert-style rating scales, with space to write comments, and explored the students' perceptions about primary science and technology. Perceptions explored included the students' own interest in, and competence to teach, these curriculum areas; the importance of science in primary and early childhood; desirable teaching strategies; and gender issues. An attitude to teaching science scale (Note 1) was also included.

Student responses were scored, and the non-parametric Mann-Whitney U-Wilcoxon Rank Sum W test was conducted to identify items where mature-age students' responses were significantly different from the responses by school-leaver students. To facilitate interpretation of results, means and standard deviations are presented in the tables of results.

RESULTS

The mean and standard deviation for selected items, for each group, are presented in Tables 1 to 4, with levels of significance indicated. Table 1 includes items related to the students' personal perceptions of their own teaching of science or technology. In Table 2, students' opinions about the importance of science to different year levels of schooling, and to boys and girls, is indicated. Table 3 summarises the students' views about the frequency with which particular teaching strategies should be used in science teaching. In Table 4, the perceived importance of a range of reasons for including science and technology in early childhood and primary curricula is indicated. All these tables compare the mature-age students to school-leaver students, showing means and standard deviations for each group on a five-point rating scale, with one the highest rating. The attitude to science teaching scale also reveals a significant difference between the mature-age group and the school-leaver group, as shown in Table 5. The mature-age students, with a lower score on the scale, tend to show a more positive attitude to teaching science than their school-leaver colleagues.

From the tables of results it can be seen that, for this sample, mature-age students compared to school-leaver students:

* are more interested in teaching life and earth topics;
* are less confident regarding the adequacy of their background knowledge for teaching both science and technology, particularly the science areas of energy, matter and space;
* feel more competent to teach technology;
* attach greater importance to teaching both science and technology to all year levels, except for technology in Years 5-7;
* attach greater importance to teaching both science and technology to both girls and boys;