This paper explores the conceptual usefulness of students' preference for regulation of learning in the classroom. The research is rooted in self-regulation of learning theory and builds upon Vermunt's (1989) work on the significance of external, internal and shared regulation on students' management of learning and achievement. An empirical study with a class of vocational education students revealed no significant relationship between students' preference for regulation of learning and their reported use of strategies for an essay and a test but the request for written self-generated strategies yielded a limited range of responses. Preference for regulation of learning was significantly related to students' interest and performance in the essay but not the test. A number of conceptual and methodological issues related to the study of regulation of learning are discussed.

Introduction

Researchers into self-regulation of learning share the view that there is a strong relationship between students' use of self-regulated strategies during learning and their subsequent academic achievement (Corno & Mandinach, 1983; Paris & Byrne, 1989; de Jong & Van Hout-Wolters, 1994; and Zimmerman, 1989). Studies by Schneider, Borkowski & Kewin (1985), Zimmerman & Pons (1986) and Blumenfeld & Meece (1988) have provided empirical evidence that greater use of appropriate self-regulation of learning strategies is associated with better performance and that frequent use of self-regulation of learning strategies significantly distinguishes higher achieving from lower achieving students (Corno, 1989).

Much of the empirical research on self-regulation of learning so far has been conducted with school children (Zimmerman & Pons, 1986; Paris & Byrne, 1989), although there is a growing body of research conducted with university students (de Jong, 1994; Vermunt, 1995; Vermunt & Van Rijswijk, 1988). The present study aimed at extending this research to students studying in a vocational education setting, and in particular at exploring the significance of students' preference for regulation of learning in the classroom - strong external (teacher-directed) control vs shared control - on their self-regulation strategies, task-related cognitions and achievement.

According to Zimmerman (1989), self-regulation of learning can be defined as, or determined by, the degree to which students are 'motivationally, metacognitively and behaviourally involved in their own learning process'. It is generally agreed that self-regulated students take a proactive role in their own learning and initiate, influence, alter and sustain effective learning practices in both solitary and social settings, and in structured as well as informal instructional contexts (Corno & Mandinach, 1983; Zimmerman, 1989). Self-regulated learning has been conceptualised from different theoretical perspectives. Zimmerman (1989) identified four distinct theoretical perspectives on self-regulation: operant, phenomenological, social cognitive, volitional, Vygotskian and constructivist. Although the emphasis is different in each theory, there is general agreement that the strategies students employ to regulate and monitor their learning have a significant impact on the quality of their learning outcomes Corno, 1989; Corno and Mandinach, 1983; Paris & Byrnes, 1989; Zimmerman, 1989).

These assumptions are supported by a number of empirical studies (Corno, 1989; de Jong, 1994; Kluvers & de Jong, 1994; Vermunt, 1995; Zimmerman & Pons, 1986). Corno's (1989) and Zimmerman & Pons' (1986) research, for example, revealed differences between more effective and less effective learners' use of self-regulation strategies. Higher achievers were found to use significantly more (a greater range and a greater frequency) self-regulation strategies than lower achievers (Corno, 1989). A few experimental studies supported the assumption that self-regulation strategies can be taught and produce superior learning outcomes (De Jong, 1995; Lonka, 1995; Vermunt, 1995). Although much of this research has been conducted in laboratory situations, the outcomes clearly support the
view that the more strategic and mentally active the learner, the higher the achievement (Volet, 1995).

Despite supportive data from theoretical accounts and empirical studies, there are a number of concerns however, which restrict the validation of self-regulation of learning as a unified construct. Although sharing other researchers' views of the importance of self-regulation in academic achievement, Howard (1990) points to a number of conceptual and methodological issues related to assessing self-regulation of learning in the classroom. According to Howard, a major issue is the interplay among cognitive, motivational, socio-behaviour, task and context variables, which in Howard's views, presents an obstacle to a clear conceptualisation and measurement of the construct. She argued that although self-regulation of learning can be broken down into components such as behaviour, motivation, metacognitive skills and strategies, measures of these components cannot be viewed additively in real classroom situations. The very nature of self-regulation of learning, i.e. strategic and adaptive strategies to manage learning in a particular situation, requires the development of instruments which are sensitive to students' subjective appraisals of the learning situation and themselves within it (Boekaerts, 1992), in addition to more objective measures of self-regulated behaviours. Appropriate use of self-regulation strategies therefore must reflect the interplay of relatively stable characteristics of individuals (such as Paris & Byrnes notion of individuals' personal theories of self-regulation of learning) and learning environments (such as Vermunt's notion of degree of teacher-directed regulation), combined with individuals' situation specific appraisals of task requirements and consequent appropriate effort and goals (Boekaerts, 1992; Volet, 1997).

The significance of the learning environment on students' self-regulation processes cannot be underestimated. Vermunt argued and demonstrated that students' self-regulated learning behaviours are affected by the degree of teacher-regulation in the classroom (Vermunt, 1989). For Vermunt, the external regulation by the teacher and the internal regulation by the student act upon each other. Since not all students are able to regulate their learning, teachers typically choose to regulate the learning of all students as they find it difficult to cater for individual differences. Consequently there is little incentive for students to develop self-regulation strategies and little scope to use any existing ones. Only students who manage to internalise and develop for themselves the strategies used by their teachers will be able, when left to their own devices, to regulate their own learning. According to Vermunt, teachers should create learning environments which encourage a gradual shift from strong external regulation from the teacher to some forms of shared control, so that students have the opportunity to realise the significance of developing effective self-regulated learning processes. Shared control should only be introduced gradually, and teachers should provide support and guidance to students in their development of appropriate strategies.

When teacher regulation is minimal as is typically the case at university, students often lack the confidence and competence to monitor their own learning (Volet & Lund, 1994). This is particularly the case for first year students coming straight out of school, although some mature age students also lack confidence in their ability to cope with academic demands at the beginning of their university study. Most students in post-compulsory education, whether at university or in vocational education programs, would benefit from methods of instruction which promote shared forms of control until they are fully self-regulated learners. Little is known about vocational education students' preference for degrees of teacher regulation of learning and the impact of their preference on their perceptions of study, self-regulation strategies and learning outcomes. Based on Vermunt's research, it can be expected that students who prefer more shared forms of teacher regulation are those who feel more confident and competent in using self-regulatory learning strategies. In turn, these students are expected to perform better on academic tasks which require a substantial amount of initiative, self-control and self-management.

The present study aimed at (i) developing a scale for measuring students' preference for regulation of learning in the classroom; (ii) investigating the conceptual usefulness of preference for regulation of learning by examining its relationship to students' reported use of self-regulation strategies, and achievement in two distinct types of academic tasks; (iii) comparing the profile of a group of vocational education students to Zimmerman & Pons' high and low achievers.

Methodology

Sample
An intact class of 27 students from a vocational education setting participated in the study. Students were in the fourth semester of a two year Associate Diploma of Health Sciences (Enrolled Nursing) Course. These students would be considered of average ability as their aggregate score at the tertiary entrance examination was not high enough for direct university entrance. The age range was eighteen to thirty, with the majority in the 20 to 25 age group. None of these students had been employed in the health care system before.

**Procedure**

The class of enrolled nursing students who participated in the study were approached in the first week of the fourth semester of their two-year course. The nature and aims of the study were explained and they were invited to take part - to which they all agreed. The questionnaire was administered by one of their course lecturers (who was also part of the research team) a few weeks later. This was done during regular class time, two weeks after they had taken the test, and thus knew their results, and on the day that they handed in the essay.

At the beginning of the session the lecturer reminded the students of the nature and aims of the study and told them that their identities would remain confidential as research numbers were used instead of their names. The lecturer gave directions on how to complete the questionnaire and provided an opportunity for students to ask clarification questions. The administration of the questionnaire took approximately half an hour.

**Instruments**

Three instruments were included in the questionnaire: Regulation of Learning Preference (ROLP); Reported use of self-regulation strategies; Tasks-related perceptions of study.

Regulation of Learning Preference (ROLP). This instrument, inspired by Vermunt's (1989) research on external, internal and shared control of learning, was developed especially for this study. The aim was to develop a measure of students' preferences for a more teacher controlled form of regulation of learning in class (strong external control) versus a more shared form of regulation of learning ie. a form of instruction where control of learning is shared between the teacher and the students.

The regulation of learning preference scale contained eight items depicting a variety of learning situations and presented on a 1-4 Likert scale format. On one end of the scale was a statement reflecting a teacher controlled form of regulation of learning and on the other end a statement reflecting a shared form of regulation of learning. For example: When preparing for a test or exam: A. I prefer the teacher to provide the revision sheets. B. I prefer the teacher to help students develop skills to design their own revision sheets.

The instrument was piloted on a class of university students, and minor changes made to some statements to clarify meaning.

The data were analysed according to the Extended Logistic Model (Rasch), a latent trait model for analysing polychotomous responses, using Andrich, Sheridan & Lyne's (1991) ASCORE computer program. The overall Chi square test of fit was good, c2(7) 3.687, p<0.789, supporting the unidimensionality of the construct of regulation of learning preference. The internal consistency of the items was low, as reflected in the separation index of 0.396, but satisfactory given the small number of items and individuals.

Reported use of self-regulated learning strategies. An adapted version of Zimmerman & Pons' (1986) self-regulation of learning instrument was used to investigate students' reported use of self-regulation strategies when working on two distinct tasks. The two tasks were: (i) a formal essay which students had completed at home over an extended period of time and which involved researching materials in the library and other places; and (ii) a written test announced early in the course and administered in class under strict examination conditions; the test mainly assessed factual information and it was presented in a multiple choice format. For each task, students were invited to list all the strategies that they could remember using when working on it.

Students' reported use of self-regulation strategies were independently coded by two different judges for each task, using a simplified version of Zimmerman & Pons' categories of strategies. Their 14 categories were reduced to 8 for
this study, by collapsing some categories and discarding others not directly relevant to this study. Each strategy reported by a student was assigned to one of the following eight categories:

- self-evaluation
- organising and transforming
- goal-setting and planning
- seeking information
- keeping records and monitoring
- rehearsing and memorising
- seeking assistance
- reviewing.

Perfect interjudge agreement was obtained for respectively 83% (essay) and 69% (test) of the coding.

Two procedures were used to summarise the categorical data. Following Zimmerman & Pons, two measures of self-regulated learning were computed: a measure of Strategy use, which represented the dichotomous scoring of each strategy, i.e., whether the strategy had been reported for any of the two tasks (0 or 1). The second measure, Strategy frequency, represented the number of tasks in which the strategy was reported (0, 1, 2). Zimmerman & Pons' third measure of self-regulated learning, Strategy consistency, which represents a combination of Strategy use across and within contexts was not used in the present study, as no data on Strategy frequency within task was collected.

Task-related perceptions of study. Students were asked to rate on a scale of 4 (very) to 1 (not at all) how difficult, interesting and useful for their learning they perceived the essay to be, as well as their perception of the relevance of the essay to their study of nursing. A similar rating exercise elicited students' perceptions of the test.

**Performance**

Students' performance on the essay and the test were obtained with students' permission, from their teachers.

**Results**

(i) Development of a scale to measure students' preference for regulation of learning in the classroom

Figure 1 shows the location of the 8 statements together with the distribution of the group of 27 students on the unidimensional scale.

![Graph showing the distribution of 27 students on a unidimensional scale.]

The figure clearly shows that except for statements 3, 7 and 8, the majority of students preferred a more teacher directed regulation of learning. This was particularly so for statements 1, 2 and 5. These results revealed that students preferred to be provided with summaries and revision sheets rather than have to prepare their own (statements 1 and 4), preferred their level of understanding to be assessed through formal tests marked by the teacher rather than via self-assessed tests (statement 5), preferred the teacher to re-explain in precise detail when they did not understand something rather than having to discuss their understanding first with peers (statement 2), and preferred the teacher to take the responsibility of organising all the learning activities when commencing a new subject rather than having some input in the organisation (statement 6).

Students' rejection of a teacher regulated form of learning for statements 7 and 8 was probably related to the very strong emphasis in the statement on 'telling' students what to do and what is relevant to them. Finally with regard to statement 3, it was reasonable to expect that when discussing dilemmas - typical situations where there are no right or wrong answers - students would prefer being given opportunities to present their personal views rather than only hearing their teacher's arguments and conclusions.

(ii) Relationship of students' preference for regulation of learning to their reported use of self-regulation strategies, task-related cognitions and achievement

The analysis of students' reported use of self-regulation strategies for the two tasks revealed that the majority of strategies were used either when preparing the essay or when preparing the test and seldom for both tasks. Table 1 shows the distribution of reported strategies by task, and in decreasing order of reported use overall.

As can be seen in Table 1, the reported strategies were quite different for each task. Organising and transforming, seeking information, and goal setting and planning were used essentially to complete the essay whereas, memorising and rehearsing and revising (reviewing) records, were used only to prepare for the test. Only a few students reported self-evaluation, seeking assistance and monitoring progress self-regulated strategies.

The direction and degree of the relationships between students' preference for regulation of learning and their reported use of self-regulation strategies, task-related cognitions and performance were examined by looking at the Pearson product moment correlation coefficients between measures.

<table>
<thead>
<tr>
<th>Spontaneously reported self-regulation strategies</th>
<th>Essay only</th>
<th>Test only</th>
<th>Both tasks</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeking information</td>
<td>21</td>
<td>-</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Organising</td>
<td>15</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Revising</td>
<td>-</td>
<td>20</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Memorising</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>15</td>
</tr>
<tr>
<td>Goal setting</td>
<td>7</td>
<td>2</td>
<td>-</td>
<td>18</td>
</tr>
<tr>
<td>Self-evaluation</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>Seeking assistance</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>Monitoring progress</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>26</td>
</tr>
</tbody>
</table>

Table 2: Relationship of students' Preference for regulation of learning and other aspects of study

<table>
<thead>
<tr>
<th>Relationship of preference for regulation of learning and other aspects of study</th>
<th>Test</th>
<th>Essay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A low score indicates a preference for more teacher-regulated learning and a high score a preference for a more shared form of regulation.

As can be seen in Table 2, preference for regulation of learning was not related to reported use of self-regulation strategies for either the preparation of the test or the essay (r = -0.04 and -0.09). The lack of relationship between these two measures, and the essay preparation in particular, was unexpected. It was assumed that students who preferred situations where they were given some responsibility for their learning would be using a greater amount of self-regulation strategies. A number of possible explanations for these results are presented below in the discussion section.

A significant positive relationship was found between preference for regulation of learning and performance in the essay (r = 0.55, p < 0.01) but not performance in the test (r = -0.24). The significant difference between the two correlation coefficients (p < 0.01) indicates that the two academic tasks were conceptualised and approached by students in different ways.

Preference for regulation of learning was also marginally related to students' interest in the essay (r = 0.36, p < 0.06). The suggestion of a possible connection between interest in academic tasks and preparedness to self-regulate will need further investigation.

A hierarchical multiple regression analysis (Tabachnich & Fidell, 1989) was performed to identify the respective contribution of reported Self-regulation strategies for the essay preparation (proximal measure, entered first in the analysis) and Preference for regulation of learning (more distal measure, entered second) on students' performance in that essay. The results showed that reported self-regulation strategies for the essay preparation did not account for a significant amount of the variance in essay performance. On entry of Preference for regulation of learning, there was a significant change of 30% in the variance accounted for (F(2,24) 10.28, p < 0.01).

A similar hierarchical multiple regression analysis was performed for the test data. The results indicate that reported self-regulation strategies for test preparation did not account for a significant amount of the variance in test performance. On entry of Preference for regulation of learning, there was no significant change either. In total the two measures accounted for only 8% of the total variance in test performance.

The lack of relationship between students' reported use of self-regulation strategies and their performance did not support Zimmerman & Pons' results but is in line with the overall low reported use of self-regulation strategies in this study. The significant contribution of preference for regulation of learning on performance in the essay, however, provides support for the usefulness of that concept. The marginally significant correlation coefficient between students' preference for regulation of learning and their perceptions of interest in the essay (r = 0.36, p < 0.06), suggests that students who prefer to take some responsibility in their own learning may prefer essay-type assignments and seem to perform better on such tasks.

Finally, the significant relationship between students' reported use of self-regulation strategies for the essay and for the test (r = 0.38, p = 0.052) revealed that students who tended to use some self-regulation strategies did so for both academic tasks.

(iii) Comparing the profile of our group of vocational education students to Zimmerman's high and low achievers
Students' reported use of self-regulation strategies in this study was compared to that of the high and low achievers in the Zimmerman & Pons' study. The two measures of Strategy use and Strategy frequency were used for that comparison. Table 3 compares the data from the two studies. (Note: Zimmerman & Pons' highest figures for Reviewing and Seeking assistance were used for comparative purposes).

As can be seen in Table 3, vocational students' Strategy use and Strategy frequency measures varied respectively from .04 to .81 (total 3.46) and .04 to .96 (total 3.74). These results show that overall the group of vocational students was more comparable to Zimmerman & Pons' low achievers (Strategy use total of 3.58 and Strategy frequency total of 4.24) than their high achievers (Strategy use total of 5.14 and Strategy frequency total of 9.65).

Zimmerman & Pons found that their two achievement groups were differentiated most by their mention of four particular strategies: Seeking information, Keeping records and monitoring, Organising and transforming and Seeking teacher assistance. Perusal of Table 2 shows that while vocational students' reported use of Seeking information and Organising and transforming strategies was comparable to Zimmerman & Pons' high achievers', they did not report much use of Seeking assistance and in particular Keeping records and monitoring.

**Discussion**

The major aim of this study was to explore the conceptual usefulness of preference for regulation of learning. More specifically, the study examined the relationship of students' preference for regulation of learning to their use of self-regulation strategies, their task-related cognitions and their achievement on two different types of academic tasks. The conceptualisation of preference for regulation of learning was inspired by Vermunt's (1989) research on the significance of external, internal and shared control of learning on students' management of learning and achievement. The instrument used to elicit students' self-regulation strategies was adapted from Zimmerman & Pons' (1986) research.

<table>
<thead>
<tr>
<th>Table 3: Reported use of self-regulation strategies in two studies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zimmerman &amp; Pons' (1986) study</strong></td>
</tr>
<tr>
<td><strong>Low achievers</strong></td>
</tr>
<tr>
<td>Strategy use</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Seeking information</td>
</tr>
<tr>
<td>Organising &amp; transforming</td>
</tr>
<tr>
<td>Reviewing</td>
</tr>
<tr>
<td>Rehearsing &amp; memorising</td>
</tr>
<tr>
<td>Goal setting &amp; planning</td>
</tr>
<tr>
<td>Self-evaluation</td>
</tr>
<tr>
<td>Seeking assistance</td>
</tr>
<tr>
<td>Keeping records/ monitoring</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

An empirical study conducted with a group of enrolled nursing students in a vocational education program revealed no significant relationships between their preference for regulation of learning and their reported use of strategies for the preparation of either an essay or a test. Preference for regulation of learning was significantly related to performance in the essay and marginally to interest in that essay but there were no significant relationships with regard to the test.
Overall the group of enrolled nursing students reported using few self-regulation strategies, and their profile was similar to Zimmerman & Pons' (1986) low achievers.

A number of conceptual and methodological issues related to self-regulation research were raised in this study and need to be addressed when interpreting the findings. The first issue relates to students' reported use, or rather reported lack of use, of self-regulation strategies when preparing for the two tasks. Possible explanations involve students' general level of ability, the reliance on spontaneously generated self-regulation strategies, the instruction to report on strategies for very specific tasks, and the characteristics of the particular vocational education learning context.

The low reported use of self-regulation strategies by the group of vocational students could be interpreted in the light of their general ability level. These students did not qualify for university entry at the tertiary entrance examination and would be considered as of average ability overall. Relationships of general achievement to strategic learning have been reported in a number of studies (Baker & Brown, 1984; Borkowski, Carr, Rellinger & Pressley, 1990; Zimmerman & Pons, 1986).

The fact that very few students in the present study reported any strategies involving the use of social sources of assistance (such as soliciting help from peers, teachers and adults) was similar to Zimmerman & Pons' findings that higher achieving students relied more on these strategies than lower achieving students. The majority of our students reported only seeking and organising information when preparing for the essay and revising and memorising when preparing for the test. These results suggest that these vocational students either were not very strategic learners or alternatively were not aware of the strategies they were using. Reporting on study strategies used when working on academic tasks would have been an unusual exercise for these students. In the absence of any incentive for spending a lot of time thinking about it - students were told that the questionnaire was unrelated to their assessment - it is reasonable to expect that despite clear instructions to list all the strategies they could remember using, students did not make a serious effort to reflect back on their study and only listed the most obvious strategies that came to mind.

The free response format and request for written answers in a questionnaire may also explain the limited range of reported strategies. This format had been chosen in preference to a multiple option item format in order to compare the results with those of Zimmerman & Pons' (1986) study. The rationale in both studies was to elicit students' spontaneous responses and avoid providing any cues which could lead students to report strategies that they may not have used. In the Zimmerman & Pons' study however, students' spontaneous report of strategies was elicited in face-to-face interviews - a data gathering technique more conducive to students' reflection. This technique offers opportunities for clarification and further probing. In addition, in a face-to-face situation students are more likely to make an effort to answer a researcher's questions. Our use of open ended questions in a written form was cost-efficient and convenient given the constraints under which the study was conducted but obviously had some limitations.

Another possible explanatory factor for the rather limited range of self-regulation strategies reported in the present study may be the fact that students were asked to reflect on their strategies for specific tasks (for example, a particular test that students had sat the week before), while students in the Zimmerman & Pons' study were requested to reflect on their strategies in general (for example, when preparing for tests and exams, treated as one context of study). According to Gardner (1988), asking students to report on their strategies for specific tasks rather than for their study in general is more appropriate for eliciting accurate reports of behaviours and cognitions (Ericsson & Simon, 1980; Gardner, 1988). In this particular situation, however, the restriction to two specific tasks rather than six broad study contexts (as in Zimmerman & Pons' study) and the request for written answers rather than verbal answers in face-to-face interviews may have contributed to the limited range of strategies reported.

Finally, the strongly teacher-regulated instructional approach of the enrolled nursing course may also explain, to some extent, students' apparent poor strategic learning. Paris & Byrne (1989) argue that variation in self-regulation does not occur only in relation to personal and task variables but also to environmental variables. According to one of the lecturers, assessment in the nursing program relied heavily on tests and 'knowledge-telling' types of essays (Scardamelia & Bereiter, 1984). Under these conditions, it is not surprising that students reported using only a few strategies as these may have been perceived as sufficient to meet the task requirements. Self-regulation strategies such as goal-setting, monitoring progress and self-evaluation are unlikely to be considered as very useful in learning contexts where teachers are taking all the responsibility for their students' learning (Vermunt, 1989). In any case, great
caution should be exercised in comparing the results of the two studies since the nature of the academic tasks in the present study may not have been totally equivalent in self-regulatory demands to that of Zimmerman and Pons' academic contexts.

The lack of relationship between reported use of self-regulation strategies and achievement on the two tasks was directly related to the limited range of strategies reported by students. In contrast to Zimmerman & Pons' comparison of extreme groups of high and low achieving students, vocational students in our study were a relatively homogeneous group in both their achievement and strategic learning. The absence of substantial individual differences in self-regulation strategies could easily explain the lack of significant relationship with achievement. The situation could have been exacerbated by the lack of measure of frequency use of self-regulation strategies within each task but the main types of strategies reported by students - revising, memorising, seeking information and organising information - were, in any case, unlikely to be sensitive to frequency use. Chan & Youlden (1995) found a relationship between reported use of general study strategies and achievement but they were not relying on spontaneously generated strategies as in the present study.

Similarly, the lack of relationship between reported use of study strategies and preference for regulation of learning was directly related to the limited range of strategies reported by students. Students' clear preference for a more teacher-regulated learning environment was somewhat surprising given that these students were not coming straight out of schools but were young adults in their mid twenties. One would have expected that as adult learners they would prefer more shared forms of regulation which offer more opportunities for self-direction (Candy, 1991). This finding stresses the fact that schools do not encourage students to take a proactive role in their learning and shows that the dependent mode of learning dominant in most high schools is still accepted as the 'normal' mode of learning by adults returning to study.

The significant relationship between students' preference for more shared forms of regulation of learning and their achievement in the essay suggests that students may have used some self-regulation strategies when working on the essay but did not report them. It is reasonable to assume that an essay prepared at home in students' own time would require a minimal amount of strategic learning.

In conclusion, the relationship between students' preference for shared regulation of learning and their interest and achievement in the essay indicates that the conceptual usefulness of preference for regulation of learning should be explored further. The positive impact of learning environments which stimulate students' interest, initiative, personal engagement and self-management of learning cannot be underestimated. Such learning environments contribute to the development of better quality learning whether in high school, university or vocational education settings.

References


