The Ombudsman: Learner Responsibility in Management Education, or Ventures into Forbidden Research

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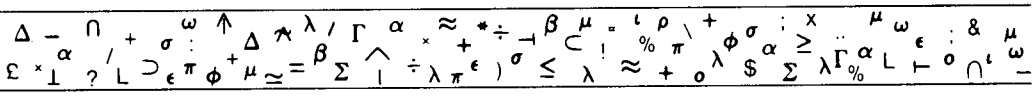

Formal education can be improved by transferring responsibility from the teacher to the learner. A simple approach to this is the time contract. Time contracts have been used successfully in nine quasi-experiments but, despite these successes, some educators see this as subversive research.

Previous research (summarized in Armstrong [1982a]) suggests two ways to *reduce* the likelihood of a paper being accepted for publication in a scientific journal:

(1) study an important topic, and

(2) obtain surprising results!

Papers that score high on both criteria might be classified as "forbidden research."

This paper reports on some forbidden research. The topic is important: *Is it possible to improve the design of formal management education?* The results are surprising: *"Simple and inexpensive changes in the formal educational system lead to dramatic gains."* The changes are designed to increase the responsibility of learners for learning.

Responsibility for Learning

Formal educational systems in universities typically place responsibility for the student's learning upon teachers. Teachers have the knowledge and their role is to motivate students to want that knowledge and then to provide it in a stimulating manner. The students' role is to acquire knowledge and to change their attitudes and behavior in ways specified by the teacher. In effect, the traditional educational system removes the responsibility for change from the person who is expected to change.

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The traditional educational system's primary aims are to transfer knowledge and to measure the final level of knowledge. However, traditional educational methods are not the most effective way to do this; research has demonstrated that television and books provide more cost effective ways of transferring knowledge (for example see Dubin and Taveggia [1968]).

One might argue that the traditional teacher-run system *forces* people to learn things that are important for their careers, or for their daily lives: it makes people more competent. Much scientific research has been done on this topic (see Berg [1970]; Astin [1968]; Hoyt [1966]; Attiyeh and Lumsden [1972]; Schick and Kunnecke [1982]; and the review by Jencks [1972]). The results are clear-cut, dramatic, counter-intuitive, subversive and downright depressing: Formal education has *not* been demonstrated to be of greater value than what people can learn on their own. The only exception I could find was provided by Gage [1978], and even there the effects were small. The studies show that other learning approaches are at least as effective as formal education. For example, when managers were asked how they acquired skills in ten different areas, "doing the job" rated first out of nine strategies for learning [Burgoyne and Stuart 1978, pp. 66-73].

Research has been directed towards improving the educational system, but most of it has examined the teacher or the teacher-support system (regulations, administration, resources, and so forth). Educational research has generally examined what we do *to* students.

Historically, most of the innovations in management education have increased teachers' and administrators' control over the students. In effect, students have been given the message that they need not be responsible for their own learning. But consider this: When you remove responsibility from a person, you have an irresponsible person.

Surveys of how people have learned things of personal importance reveal that they give little credit to formal programs [Tough 1979, 1982]. They claim they learned by themselves, and detailed accounts of their learning experiences support this evaluation. Furthermore, a substantial amount of research suggests that people are not likely to change in any important way unless they see themselves as responsible for the change (Armstrong [1980] summarizes some of this research).

Attempts have been made to incorporate learner responsibility into formal educational systems. Some of these were in undergraduate liberal arts programs. Tough [1979, 1982] describes programs based on learner responsibility in adult education. I am aware of only four programs in management (undoubtedly other such programs exist):

— The Solstrand Program in Norway, an executive training program, allowed participants to decide how to allocate the program's budget. The students were given responsibility, as a group, for the financial resources.

— In the Social Systems Sciences department at Wharton, members of PhD student groups were responsible for teaching one another.

— The Swedish Institute of Management

in Stockholm asked the executive-participants to manage their learning individually. They used a highly-structured process whereby they set personal objectives, selected learning tasks, reviewed progress, and made applications [Armstrong 1980].

— Roger Harrison's executive training programs in Europe explicitly removed teacher responsibility and provided students with structured self-directed learning tasks [Harrison 1977].

In all of the above programs, the increased responsibility of the learners has apparently been a successful aid to learning.

Formal evaluation of these programs has been slight, although Armstrong [1980] reported on a highly-structured approach called "Self-Oriented Skill training" (SOS), for helping students gain responsibility for their learning in courses. Six quasi-experiments run between 1974 and 1979 at the Swedish Institute of Management, the University of Hawaii, and Wharton indicated that SOS was substantially more effective than a traditional approach in producing behavioral change.

Time Contracts

An extremely simple way of implementing learner responsibility is "time contracts." Under time contracts, students are graded simply for the amount of time they spend on activities related *directly* and *only* to the course. Nothing else counts in the grade! A detailed and up-to-date diary must be submitted at the end of the course with daily entries showing time spent, what was done, and what was learned.

Time contracts are designed to increase learner responsibility in programs where skill training is important and where grades are used. These characteristics are common, for instance, in undergraduate and MBA programs in management.

This simple change from evaluating performance to recording the time spent eliminates a serious barrier to learning, the traditional grading system. As demonstrated in Condry [1977] and Levine and Fasnacht [1974], grading increases productivity but reduces learning.

Time contracts make students responsible for the use of their most important learning resource, their time. Although it is common to be rewarded according to the amount of time one expends in many areas of life, it is unusual in formal education. Because it is so unusual it is natural to suspect that students may not accept this responsibility.

The "teacher's" role is to be a helper in the learner-responsible system. Help can be provided in various ways, by listening, lecturing, providing learning exercises, giving feedback; however, it is the student's decision whether to use this help. Tests could, of course, still be used to provide feedback to the student or to assess the *course*. They should not, however, be used to assess students. In fact, the professors should not see individual scores.

Evidence on Time Contracts

I have searched the literature using sources such as the *Current Index to Journals in Education*. I have circulated my paper to key people (including Allen Tough, who introduced me to the use of time contracts) and, during the past four years, I have presented progress reports

on my research in the US and Europe. I have been unable to find prior research assessing the use of time contracts in any educational program. This seems strange because time contracts are common in our working life (many people are paid for the time they spend on a job) and such a change would be so simple. The direct evidence, then, is limited to research that I have done. A brief report is provided here, while details are presented in Armstrong [1982b].

Implementation

Time contracts have been provided as an alternative to the traditional grading scheme in nine courses at Wharton since 1978. Although the students were not assigned randomly to the time contract and traditional treatments, steps were taken to test alternative explanations of the results.

Despite their initial expression of skepticism, 87% of the 252 students in these courses chose the time contract. Their choice was made prior to a specified deadline, generally two weeks into the course. Time contracts were more popular with graduate than with undergraduate students.

About 82% of the 252 students fulfilled the requirements by submitting a diary. They provided detailed accounts of what they did and what they learned, and, based on unannounced audits in some classes, they kept their entries up-to-date. The other 18% were graded in the traditional manner based on an evaluation of their work.

Administration of the time contract was simple and required less faculty time than did traditional grading.

Results

Based on casual observation by students, visitors, and myself, the class atmosphere differed dramatically from that in traditional courses. Students experimented with new approaches and seemed to be highly creative. They also sought feedback from others. From a faculty viewpoint, the contract classes were also more pleasant; they were more oriented towards cooperative problem solving.

More systematic evidence was obtained by end-of-course questionnaires and by critical incidents surveys administered six months after the course ended.

Students using time contracts reported that they felt more control over how they spent their time and also that they spent more time than in traditionally-run courses.

Time contract students felt more responsibility for their learning. The differences between their responses and those of respondents from a number of traditionally-run courses were dramatic. For example, 22% of the time contract respondents said they felt that they "owned" the course, but less than 1% of the traditional students felt that they did.

The real test was whether the time contract aided behavioral change. Did they learn skills? On the end-of-course questionnaire, time contract respondents reported that they achieved more behavioral change. These opinions were supported by the six-month critical incidents surveys. Independent and blind coding by five coders found at least four coders agreed that behavioral change had oc-

curred for 44% of the 32 time contract respondents from two of the courses. This is significantly better than the corresponding change score of 17% for the 219 respondents from traditional versions of similar courses taught by six other Wharton professors (significant at $p<.01$ using χ^2 test).

Limitations

The limitations in my research are serious. The classes have been limited primarily to marketing management and advertising. Random assignment has not been used (although two time contract groups were assigned in near-random fashion and the results from these groups were similar to those for the other groups). The primary assessment of behavioral change was based on self-reports and most of the evidence has been obtained from a single institution (Wharton). The fact that this was an experimental situation might lead some to argue that the favorable results were due to the "Hawthorne effect"; however, as shown by Blumberg [1968] and others, evidence on the existence of the Hawthorne effect is weak. (The "Hawthorne effect" states that participants in an experiment respond in a favorable fashion because of the attention being paid to them. It was based on an *ad hoc* explanation of the results from studies at the Hawthorne works of Western Electric. Blumberg presented an alternative hypothesis that was vastly superior in explaining the results.) A final possible limitation is that I was the teacher in all of the time contract groups and I used other techniques such as experiential exercises; this allows the alternative explanation that "learner responsible systems can only be run by Armstrong and only with Wharton students." This strikes me as unlikely. More plausible is that by keeping a diary, students simply become better at *reporting* what they learned.

Still, the results are promising and unusual. Here is an approach based on prior research and it has been successful in nine quasi-experiments over a number of years. It seems as if the time contract is worthy of "further research." Before plunging ahead, however, consider the barriers to such research.

Barriers to Research on Learner Responsible Systems

Formal education has proven itself to be highly resistant to the use of learner-responsible approaches. This resistance seems especially strong in management education. Isn't it strange that few management schools experiment with programs where students *manage* their own learning? Perhaps learner-responsibility violates the unspoken values of educators and learners. Certainly it violates the "divine right of management," which calls for obedience to those in authority. Some would even argue that our existing management programs seem to train for obedience and to weed out the disobedient.

Another possible barrier is that the learner-responsible approach reduces the power of the teacher over the students. In traditionally-run classes, the teacher might be viewed as the adult and the student the dependent child. This feeling of power might be important to teachers.

Most of us have more confidence in our personal experience than in experimental evidence (a well-known finding from so-

cial psychology). Our personal experience in the traditional system should convince us that students are often irresponsible — and sometimes even dishonest! How then could one expect to develop an education system based on learner responsibility?

Critics of my research in this area often claim that quasi-experiments are not convincing to them. Interestingly, however, when I ask what evidence they would accept as valid, most have responded that they could not think of *any*. So it goes.

As my evidence has accumulated over the years, I find that denials of the validity of the research grow stronger. This reaction seems parallel to that reported in Batson's [1975] study about beliefs in Jesus Christ as God. Those who believed Christ was God and who received what they thought was authentic disconfirming evidence *increased* their belief that He was God.

To put this in perspective, I will tell you about one experience. Although some school administrators and many faculty have been helpful in this research, not everyone is supportive. I once asked three faculty members for permission to run my end-of-course survey in their classes in order to increase my sample from traditionally-run courses. The survey would take about five minutes. The initial reaction was a combination of apathy and approval. I went on to explain the purpose of the survey, and provided the questionnaire and the current version of my research report. After they had read these, emotion ran high. I was instructed by the course head that I should not discuss the questionnaire with any of the faculty teaching the sections of this course, but should deal with them only through him. Furthermore, these faculty members would have a meeting with me to decide whether I should be permitted to survey their students. In that meeting, I volunteered to change the questionnaire (to add or delete any items) or to allow them to impose any restrictions they chose to ensure the confidentiality of the data. They replied that *none* of the questionnaire items was valid and that they did not have enough time over the next month to suggest items that would be appropriate. (Copies of this proposed questionnaire are available from the author.) Furthermore, they were concerned that the questionnaire might do irreparable harm to their department or to the students. One mentioned that he hoped to maintain good relationships with his students after they left Wharton — "over the next 10 to 25 years" and he was adamantly opposed to the survey on the grounds that it might jeopardize these relationships. Strong stuff.

This experience is not unusual in my research on learner responsibility. Researchers should be aware of the hazards of doing "forbidden research." Faculty might think that "if Professor Smith is doing it one way and almost everyone else is doing it another way, one way must be wrong — certainly Smith cannot be suggesting that *we* are wrong."

Conclusions

Having provided fair warning, let me encourage you to join me in doing research on learner-responsible education. The potential benefits to learners are substantial. The research is easily replicable

and inexpensive. I am willing to provide assistance with your research. For example, I can provide a short manual and a detailed report on results to date [Armstrong 1982b]. Also, I can report on your research in the *Ombudsman* column. Negative results are welcome. Perhaps after further research we may conclude that learner responsibility is less effective or that it is relevant only to certain topics or faculty or programs or schools. Currently we have little information on these issues.

Institutions should *reward* experimentation on learner-responsible systems. Some institutions have done this, especially in undergraduate education at some liberal arts colleges, but it is rare indeed in management education.

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A Comment from **Clayton P. Alderfer**, *Associate Dean for Professional Studies, Yale School of Organization and Management*

Scott Armstrong recognizes that forces in graduate management education operate as if learners are not or cannot be responsible for their own learning. He describes experiments with time contracts

which may serve as a counterforce to the dysfunctional effects he observes. He reports several remarkable manifestations of resistance to his innovations.

I agree with some of what he has said and also have questions about other aspects of his perspective. The similarities and differences may become more clear if his examples can be contrasted with how we attempt to manage the learning environment at the Yale School of Organization and Management. From the comparison I identify differences in learning theory, while recognizing that we share a common goal of enhancing the sense in which students can be and, in fact, are responsible for their own learning.

At the Yale Management School we monitor workload pressures on a regular basis by taking bimonthly surveys of student experiences. These data include work demands inside the classroom, and outside as well. The questionnaire also provides an opportunity for students to comment on the quality of their educational experience. When either the quantitative or the qualitative data suggest problems with the learning climate, the issues are brought to the attention of faculty teaching specific courses or to the faculty as a whole, depending on the nature of the problem. When necessary, changes have been made in a matter of weeks.

Monitoring workload, however, is just a piece of the larger problem of creating and maintaining a productive educational climate. Many factors, in addition to classroom hours, shape the quality of the teaching and learning experience. At the Yale Management School we have a weekly, hour-long meeting devoted to open discussion of problems and opportunities that affect education in the school. Agenda are set by students and faculty, and minutes of these meetings are distributed to the entire school. Subjects range from students telling each other to stop leaving classrooms in disarray when they use them during off hours to sustained dialogue between faculty and students on whether the criteria for senior appointments at the school are based on the most fruitful combination of scholarship, teaching, and citizenship. Students question whether faculty identified with particular disciplines can see beyond the confines of their specialties, and faculty point out that students may have their own blind spots arising from being in the school for only two years. In short, the meetings indicate that educational climate is shaped by both faculty and students and especially by their relationship to each other.

A variety of unconventional solutions to management school problems have arisen from these meetings. The Yale Management School educates people for careers in public, private and non-profit organizations. Yet it is well-known that salaries in these different kinds of institutions vary markedly; publishing starting salaries, as so many leading management schools do, can exert powerful incentives against students who are considering careers in public or nonprofit arenas. As a result, we do not report the starting salaries of our graduates either in the school itself or in the national media.

Many other examples could be cited, including the nature of our grading system, the way we deal with tensions between education and placement, the

methods for reviewing and revising curriculum, the manner in which new students learn the ropes at the school, and the contribution current students make to recruiting and selecting their successors.

Many people at the Yale Management School — administration, faculty, staff, and students — believe that we teach and learn a lot about management by how we manage ourselves as well as by what happens in the classroom.

The first key difference with Armstrong's implicit learning theory turns on the extent to which learners can be responsible for the system-wide learning environment as well as for the learning in particular classes. The time contract deals with the learning environment in particular classrooms. It does not deal with the learning environment in the school as a whole. I believe that students become more responsible for their learning if they believe that they can actively as well as passively shape the system-wide learning environment. This belief comes about only when students exert active and effective influence on their school-wide learning environment.

The second key difference pertains to time as a measure of learning versus time as a constraint to learning. I do not believe that it is educationally wise to contract with students individually for how much time they will give to learning in a course. I do believe it makes sense to monitor and control the total time that is necessary to operate effectively in a learning environment. Management schools are notorious for making workload demands that students cannot possibly meet. If students are to believe that learning as opposed to game-playing is the objective of their educational experience, they must have a real sense that the time demands put on them by faculty can be negotiated. But the outcome of an effective learning process is not the hours invested. It is the learning achieved. To mix these two variables is to confuse means (time invested) with ends (learning achieved).

The third key difference involves the relationship between students and faculty in the construction and management of the learning environment. Armstrong writes as if the way self-responsible learners develop is to form a time contract and then to have minimal interaction between faculty and students about the learning environment. I believe that managing the learning environment must be a dynamic on-going process. A time contract might be part of the process but, at most, it is a piece of a larger whole. Making the process both multifaceted and on-going provides a means for taking account of both student and faculty perspectives in the process. The sorts of resistance that Armstrong identifies can be examined more fruitfully and responded to more effectively if they are accepted as part of the natural course of events rather than being viewed as signs of subversive activity.

A Comment from **George H. Haines, Jr.,** *Faculty of Management Studies, University of Toronto*

This paper recalled vividly an experience I had some years ago at another university. I was teaching students computer programming, and after some years I became convinced that lecturing at

people with your back turned to them half the time while you wrote on a chalkboard was not too effective a learning procedure for students. So I had all of these students procure and, at their own pace, work through a series of excellent programmed learning texts published by IBM on Fortran and PL/1. There were no lectures. Class time was used to answer questions. Most people had no questions, and indeed some class periods were distinguished by the complete absence of students. The course retained graded homework, take-home term exams (actually, these are provided as part of the programmed learning texts), and a final examination. Therefore, there was objective evidence to support the claim that the students learned more material better with this approach than with the previous "talk at students" approach.

My colleagues were aghast. Some of the students (but not all) were upset. How could anyone claim to be a teacher who not only did not lecture, but also did not even hold formal classes? I was never to teach this course again. The fact that the evidence indicated the students learned the material better, and more of it, was not relevant except, I believe, in suggesting that what had been done was even more dangerous and subversive than initially thought.

Programmed learning is a kind of time contract. It is one that entraps a user because of the stimulus-response feedback loop: the learner makes a response and gets immediate feedback as to its correctness. The point Professor Armstrong makes that increasing the responsibility of learners for learning leads to dramatic gains is, I believe, quite correct. Time contracts are one way to do this.

My purpose here is to describe briefly an alternative high involvement learning program I have been involved in for the past eight years, to provide data with which to evaluate the program, and to comment on how certain design elements used appeared to have somewhat mitigated the danger to faculty.

One More High-Involvement Learning Program

Some years ago the then Ministry of Industry and Tourism (now Ministry of Industry and Trade) of the Province of Ontario began a program of aid to small businesses. It provided grants to Ontario universities with business programs to set up small business assistance programs using students. The Faculty of Management Studies decided to use this support to construct a high involvement learning program in the MBA program which would serve as a clinical teaching program in consulting and entrepreneurship, while also providing aid to small businesses. They did not believe that a traditional low involvement design would do the job.

The implementation took the following form: in 1974 a group of ten students was formed and put to work for the summer helping small businesses. They were told to organize themselves as a business, and that they would be responsible for future fund raising and for recruiting their replacements. After the first summer, client fees were to be charged. But even in this startup summer, some clients were charged. The students discovered people did not take their work seriously if it was free. Price is a measure of value. But

based on casual observation and the number of clients served, the program was a success. It was increased in size to twelve students in 1976. At first, student performance was assessed in terms of how many clients were served, but thereafter, this was altered to include a market test as well: how profitable was the business? The program was designed to be a learning experience that provided summer earnings for the students but not academic credit. Later it became possible to obtain academic credit; this is discussed later.

So the tradition became that at the Faculty of Management Studies the "students ran the summer consulting program." The students were, and are, responsible for fund raising and relations with the ministry, recruiting and training their replacements, planning their operations, hiring their employees, and all the other things required in running a successful business. A time contract is part of the program but the program design further reinforces high involvement learning because actual earnings are at stake. The faculty who teach in the program are hired by the students as consultants to their business. So, the students are really responsible for the entire operation of the program. By agreement with the ministry, the students receive a portion of fee income generated by client charges, and have an economic incentive to do well. Over the years, the level of base salary provided by the ministry to students and faculty has fallen in real terms, but the fees charged have increased so the economic incentive has gradually increased.

> Teachers have the knowledge and their role is to motivate students to want that knowledge and then to provide it . . .

After a while, the students decided that having the business set up as a partnership was unbusinesslike, so they set up a nonprofit corporation. The market test became "how large was the operating surplus?" because, of course, profits were no longer being earned. The overwhelming majority of board members in the corporation are students in the program or alumni of the program. Traditionally, the president is an alumni of the program. The program also expanded to an eleven-month operation. (Almost no clients are served in April, which is the personnel changeover month and the month when final examinations are scheduled.)

Results

As Professor Armstrong points out, results of high involvement learning exercises have traditionally been assessed on casual observation of atmosphere, end-of-course questionnaires, and occasionally by surveys later of participants. It was decided that the program described above would be assessed in terms of real market criteria. What was the impact of this learning experience on the small businesses served? Three criteria were identified: total revenue increase to clients, total cost decreases to clients, and employment increases.

Two evaluation research projects were performed. One was based on a mail survey of 1977 clients, the second on per-

sonal interviews of 1978 clients. Clients were surveyed six months or more after their work with the program. The results of these evaluations for 1977 and 1978 show clearly that the program is a success (Table 1). The mail survey results had a higher variance than the personal interviewing results. Since the costs of the program were in the neighborhood of $60,000 per year during these years, it is quite clear the program is a success.

Is this a right way to evaluate a learning program? Nobody seems to know, but I present it here as an example of one additional evaluation criteria that could be used if time, resources, and circumstances permit. It does seem clear that multi-criteria evaluations are called for until we achieve some better understanding of how to evaluate educational programs in universities.

Hazards

Professor Armstrong states that doing research on forbidden topics is hazardous, and that high involvement learning is a forbidden topic. I would agree. Much of the potential hostility to our program was defused because it is voluntary and is not, in general, given academic credit. The program was given official blessing by the curriculum committee of the Faculty of Management Studies in 1979. At that time it was decided that students could receive some (up to two one-semester courses) academic credit for participation on an optional basis, but only for work for which no payment of fees by a client was received. It is an interesting comment on the state of management education that work which has a positive market value was adjudged unsuitable for academic credit. The level of student participation in such projects for academic credit has been quite variable. Some years all students have done such work; this year, no students are doing such work.

However, at about the same time an anonymous complaint about the program

> . . . most of the innovations in management education have increased teachers' and administrators' control . . .

was sent to the president of the University of Toronto. He requested a formal report from the dean, who told me to write a formal report to him. I did so (although I was never to see the anonymous complaint), and the program has survived, but at the time it was harrowing and nerve-wracking. My conclusion about all this is a little more guarded than Professor Armstrong's. I do not think non-tenured faculty should be encouraged to do research on high involvement learning if they are worried about getting tenure.

Criteria	Year	
	1977	1978
Total revenue increase to clients	$ 70,000/year	$303,000/year
Total cost decreases of client firms	200,000/year	130,000/year
Employment increases	50 people	15 people

All figures in 1977 or 1978 Canadian dollars except employment, of course.

Table 1. Evaluation of high involvement small business entrepreneurship program.

This is the only time I have had experience with an anonymous complaint sent to the president of the university I was associated with, and it is only the second time such an anonymous complaint was

treated as serious. The burden of proof rested with me in this situation.

The tactic I used to prove myself innocent was to show, using documented evidence from the ministry, that the program outperformed all other such programs in the province on the criteria used by the ministry. The big thing you have going in high involvement learning is the dramatic effects it has and the fact these are often positive effects. But be warned: not all students like it, and some students can't stand it and are unable to perform in such a situation. The reaction of this minority will be loud and negative. After all, what is a student who gets all A's by cheating to do with high involvement learning? Such a student's skills in dishonesty are suddenly of no value and it would be very surprising if such a person were to view such an experience favourably. I suspect other categories of students may find such a learning experience unappealing — more research is needed, of course.

Time contracts make students responsible for the use of . . . their time.

Summary and Conclusions

High involvement, or learner-responsible, education works. It has dramatic, positive, demonstrable effects. It is a forbidden topic and we do not know precisely why it is a forbidden topic.

One engages in it, and in research on it, at considerable personal risk. This risk may be reduced by making students' entry into the experience voluntary. It may also help to have your colleagues, collectively and officially, say such an exercise is all right.

Because it works, more research is needed. I agree with Professor Armstrong: "We need (more) experimental evidence." Let me second Professor Armstrong's call for more people to join in this expedition. Misery loves company.

Acknowledgement

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A Comment from **Allen Tough,** *Department of Adult Education, Ontario Institute for Studies in Education*

For several years Scott Armstrong has pioneered time contracts as a simple, effective procedure in university courses. This paper, like his previous papers, stimulates and helps all of us to grasp his approach, to note what improvements it does and doesn't produce, and to experiment ourselves. I do hope this paper will prompt some faculty members to try time contracts, and to report their results.