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**SWP 34/93 THE GRADUATE ENTERPRISE PROGRAMME:
ATTEMPTING TO MEASURE THE EFFECTIVENESS OF
SMALL BUSINESS TRAINING**

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ISBN 1 85905 039 5

The Graduate Enterprise Programme:

Attempting to measure the effectiveness of Small Business Training

The measurement of success and performance in enterprise and small business programs has been commented upon by Birley (1985) and Vesper (1985, who has also looked at US activity) among others. As many of the UK programs in the nineteen seventies and eighties were concerned with job creation and reducing unemployment, typical performance measures have included cost per new job created, survival rates of companies etc. As government finance (via the Training Agency) was frequently involved, the measurement focus has naturally been on controlling input cost and in providing comparable "cost per place" data across competing programs and training providers.

Measuring the "effectiveness" of training is, of course, a perennial problem, with opinion sharply divided even within the academic community, ranging, on the one hand from David Storey (1987), who has claimed "that it has never been shown that the net effect of subsidising small firms is to create more wealth in the community", to on the other hand, the celebrated reponse of President Bok of Harvard, behind which many trainers have sheltered, "if you find the cost of education excessive, try the alternative, ignorance!"

While the Training Agency financed Graduate Enterprise Programme (G.E.P) was run each year at Cranfield between 1985 and 1993, an attempt was made to build a data base, containing "output" performance data provided by programme participants, to help determine whether the training programme was indeed "adding value" in practical financial terms to compensate for the more easily measured "input" costs incurred.

The results, detailed below, are presented simply to add to the debate on the different ways of measuring training program effectiveness. The findings are presented in four parts:

1. G.E.P Objectives and History
2. G.E.P Results
3. Further G.E.P research on training effectiveness
4. Preliminary Conclusions and Summary

1. GRADUATE ENTERPRISE PROGRAMME OBJECTIVES AND HISTORY

The programme was designed to assist first time graduates¹, with business ideas, to start their own businesses. Pilot tested in Stirling in Scotland in 1983, the G.E.P was developed and launched in England in 1984. The G.E.P program owed its origin to government concern that United Kingdom (UK) college graduates were less interested in self-employment and small business than, for example, careers in accounting (nearly 10 percent of UK graduates in 1983 opted for accountancy compared with under one per cent for self employment) (Careers Service Destination Survey 1983) and were less enterprising than equivalent graduates, for example, in the USA and Japan (where between 2 and 2.5 per cent started their own business)² There was also concern with graduate unemployment, which was running at over 10 per cent in the depressed employment climate of the early 1980s, with large firms reducing their graduate intake (a situation almost exactly repeated in the early 1990's).

Although never explicitly stated, from this it can be deduced that the primary objective of G.E.P was to increase the percentage of UK graduates starting their own businesses (or, at least, becoming self-employed). Supplementary objectives might also have included the establishment and development of small business training departments in the colleges chosen to deliver the program (in all some 10 universities and polytechnics being involved at the peak of the program in 1990³) as well as contributing to the development of a spirit of enterprise, via role models and case studies, in the target graduate segment.

¹According to the Training Agency definition, a graduate is anyone who had earned a degree or degree equivalent qualification within the last two years.

²David Trippier (1987), Minister for Small Firms, Department of Employment: "I am dismayed by the fact that only one-third of one per cent of graduates in this country go into starting their own businesses from scratch, compared with two per cent in the United States and two and a half per cent in Japan

³Stirling University, Cranfield School of Management, Warwick Business School, Durham Business School, Manchester Business School, Huddersfield Polytechnic, South East Consortium (London), Bristol University, Cardiff Business School, University of Belfast).

The program would be rigorously cost controlled by the Training Agency as it developed, ultimately using competitive tendering methods to select training providers. Specific program content for the three phases of the training (see below) was jointly developed between the Training Agency and program providers.

Phase 1	Phase 2	Phase 3
Half day awareness seminars at Colleges, attended by 3 - 4,000 students in England <i>January - March</i>	Two Day Business Workshops/ Selection Minimum 1,000 students <i>April</i>	12 week (20 training days) Business Training Programme. Between 150 - 220 <i>August - December</i>

As the median age of training participants was 23, well below the early thirties age noted in many studies as being the more common age for launching new ventures (Birley, 1989), teaching methods followed closely the "entrepreneurial-directed alternatives to traditional teaching" recommended by Ulrich & Cole (1987), using workbooks and practical exercises specifically designed for participants (Barrow, 1988 & 92) which have been described in detail elsewhere (Brown, 1990). Finally, as after six years of delivery (1984 - 90) the third phase of the G.E.P was ended, leaving seminars and workshops only as a means to stimulating student enterprise (and as a signpost to local sources of training developed in the UK during the 1980's), an opportunity inadvertently developed in programme measurement terms, to investigate performance achievements of graduates who had benefited from significant training support (G.E.P years 1 - 6, 1984 - 90) with those who from 1990 had significantly less support.

2. GRADUATE ENTERPRISE PROGRAMME RESULTS

As the primary objective of the G.E.P was to increase the percentage of UK graduates starting new businesses or becoming self-employed, an analysis has been made of graduates entering employment, 1983 - 1991, with results as shown in Exhibit 1.

The first observation that can be made is that the number of graduates becoming self-employed at the outset ie in the pilot year of the programme 1983/4, at 1.1% of the employed graduate population, was considerably higher than the estimate previously quoted by the initiating Minister for Small Firms (0.3%!). Prior to 1983 the classification option "self-employment" had not been regularly or systematically included on all career service estimation surveys; the low estimation for self-employment in the UK in 1983 may therefore have been the result of selective sampling error. One can wonder, however, that if the true figure of 1.1% compared with 2% quoted for the USA had been known at the time, whether the Graduate Enterprise Programme would have been launched at all!

Nonetheless, while the main G.E.P ran between 1984 and 1990, the number of graduates entering self-employment nearly doubled, plus 93%, while the overall number of graduates entering employment or further training increased simply by plus 38%. Numerous extraneous factors might have contributed to this "increase in enterprise" other than simply the G.E.P (eg rising levels of economic activity, the "Thatcher" enterprise phenomenon etc), which factors in reverse might also account for the slight decline (-4%) in graduate self-employment in 1990- 91, coinciding with the ending of the main training programme. That there was some connection between the G.E.P and changes in graduate self-employment was supported, nonetheless, by a small survey (Philippe Dro, 1992) on 13 successful Cranfield G.E.P businesses, which revealed that 11 of the enterprises would not have started without the support of G.E.P. Equally, previous market research amongst Cranfield G.E.P applicants (Brown 1990) revealed that the main impact of the G.E.P was to provide an incentive for young graduates to "accelerate" and bring forward the timing of their projected business start-ups (in most cases by up to 5 years) so that the increase in graduate self-employment from 1.1% to 1.5%, and subsequent decrease with the ending of central training in 1991 to 1.3% could possibly have been predicted. Further monitoring of college statistical records from 1992 may help to confirm these preliminary findings.

Whether the achievement of a modest 1.5% of UK graduates entering self-employment was, nonetheless, a sufficient justification for an expensive G.E.P led to further detailed research amongst the participants of one training provider, Cranfield. Quantifying the

Exhibit 1

**The total of U.K. graduates entering self-employment has nearly
doubled over the last 7 years**

(a) Total Graduates Entering Permanent Employment or Training

Year \ Degree Establishment	1983-4	1984-5	1985-6	1986-7	1987-8	1988-9	1989-90	1990 - 91
Universities	72,973	72,046	69,923	71,574	72,589	73,641	75,971	77,449
Polytechnics	29,547	32,809	34,333	35,490	37,597	50,712	50,850	57,326
Colleges of F.E.	10,385	13,903	15,464	16,008	16,083	32,437	28,968	27,394
Total Grads* Entering Employment & Training *(Degree & HND)	112,905	118,758	119,720	123,072	126,269	156,790	155,789	162,169

(b) Self-Employed	GEP PILOT	GEP 1	GEP 2	GEP 3	GEP 4	GEP 5	GEP 6	GEP Workshop only
Year \ Degree Establishment	1983-4	1984-5	1985-6	1986-7	1987-8	1988-9	1989-90	1990 - 91
Universities	551	577	624	696	707	779	784	748
Polytechnics	383	561	677	663	688	650	805	826
Colleges of F.E.	176	382	478	536	528	505	558	480
Total Self-Employed	1,110	1,520	1,779	1,895	1,923	1,934	2,147	2,054
% Self-Employed (b/a)	1.1%	1.3%	1.5%	1.5%	1.5%	1.3%	1.4%	1.3%

Source: Universities Statistical Records, Dept of Education & Science

business outcome for each student enterprise was recognised at the outset as being a necessary task to permit training programs to be revised in the light of actual student business experience as well as to ensure that Government as the main sponsor, and the private sponsors, received "value for money"³. To this end a voluntary quarterly audit report was designed (subsequently semiannual) and a data base (Data Base 4) was established at Cranfield to enable each student enterprise to be monitored in terms of sales, profit (before owners' drawings), numbers of employees and description of main business problems incurred. The data received was consolidated and returned to participants in the form of a newsletter, encouraging networking amongst contributors. Initial years' returns showed that between one-half and two-thirds of participants "survived" what Ganguley (1985) and others have noted as "the period of special vulnerability" ie the first 30 months of trading. Survival rates were, in fact, comparable with those of other start up courses (Birley 1985), although participants were younger.

The summary of Program costs and results from some 149 student enterprises as at April 1992 are shown in Exhibit 2.

Costs of Programme are Matched by Cumulative Profits in Third Year of Business Exhibit 2

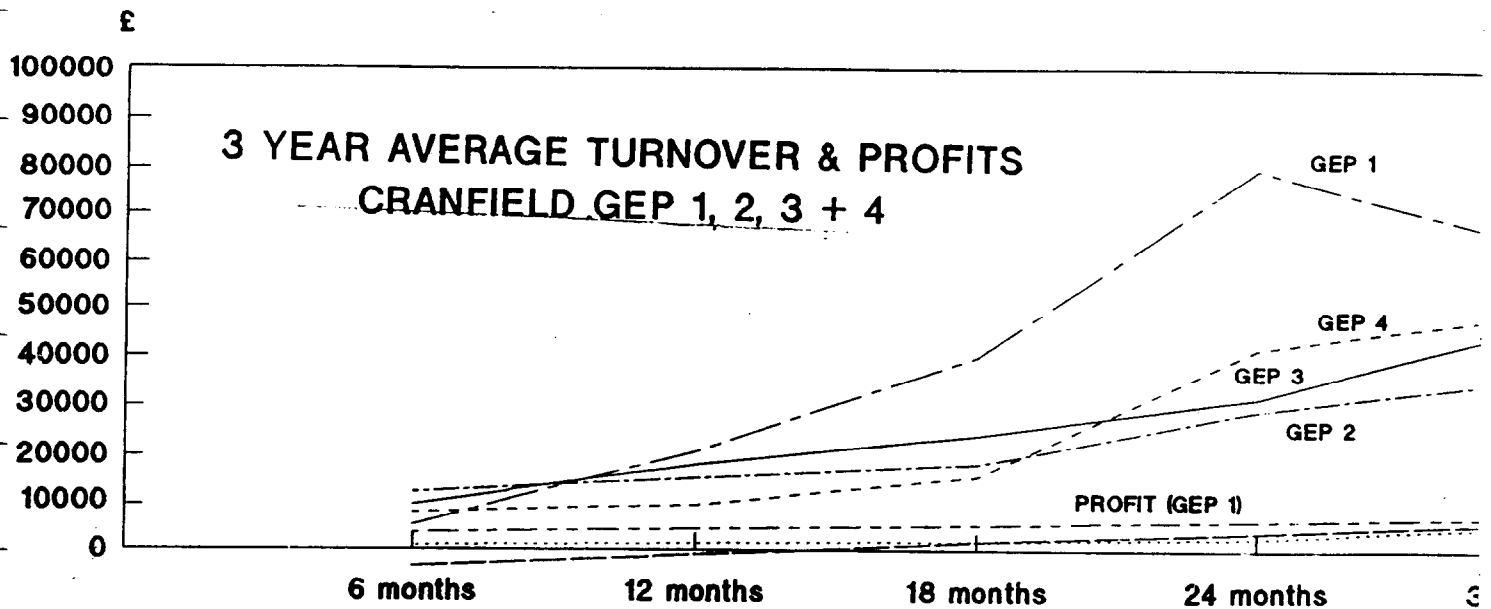
Cranfield Programme/ Years	Programme Cost (Approx)	Sales (Cumulative) (Max. 3 Yrs)	Profit (Unaudited) (Cumulative Max. 3 Yrs)	Total Employees	
				F/T	P/T
GEP 1 1985	£250,000	£5,562,309 (end 88)	£624,927 (3 Years)	82	51 Yr 3
GEP 2 1986	£200,000	£3,099,679 (end 89)	£265,012 (3 Years)	60	55 Yr 3
GEP 3 1987	£130,000	£2,024,106 (end 90)	£165,729 (3 Years)	15	14 Yr 3
GEP 4 1988	£130,000	£1,562,807 (Dec 91)	£199,975 (3 Years)	29	69 Yr 3
GEP 5 1989	£130,000	£1,418,508 (Dec 91)	£69,702 (2 Years)	34	22 Yr 2
GEP 6 1990	£130,000	£231,336 (Dec 91)	38,136 (1 Year)	11	11 Yr 1
Total for 6 Programmes	Cumulative Cost £970,000	Cumulative Sales £13,898,745	Cumulative Profit £1,363,481	Total Employees 231	222

³Michael Dixon, quoted in the Financial Times (Oct. 12,1988): "The Government has enshrined value for money as a condition of educational institutions' public funding....the development of performance indicators is now a hot topic at every level of education."

Cost of programs (covering all 3 phases, student accommodation and allowances) were reduced from G.E.P1 to 3 by reducing numbers of participants from 40 to 20 pa and at an overall average cost of just over £4,000 for each full-time job created (a favourite Training Agency measure) this made the G.E.P a more expensive job creation program from many other Training Agency new enterprise projects. The sales and profit data collected suggested, however, in simple business terms that profits earned by these new enterprises more than matched training costs by the end of the third year of trading. Two caveats were, nonetheless, necessary:

1. The reliability of the data depended entirely upon the honesty of respondents, although in several cases by the third year of trading, as companies grew, accounts were subjected to proper accounting audits. The data provided enabled profiles to be drawn of typical new company starts (Exhibit 3), as well as longitudinal case studies to be prepared for classroom use (Brown & Cook, 1992).

Exhibit 3

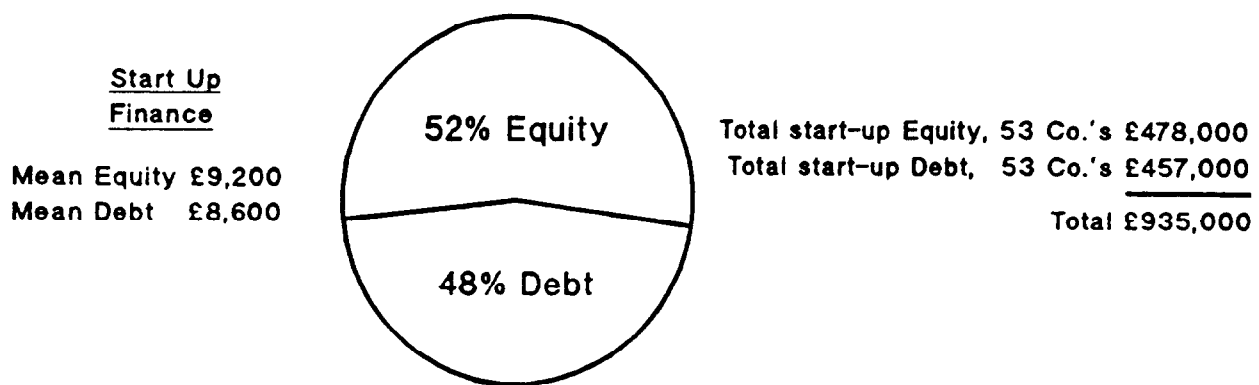


2. It is not assumed that the generally satisfactory results for companies in the Cranfield data base were due uniquely to the G.E.P. Most of the small businesses started in the program had benefited from considerable inputs of external capital, largely from the clearing banks and from many other sources or management

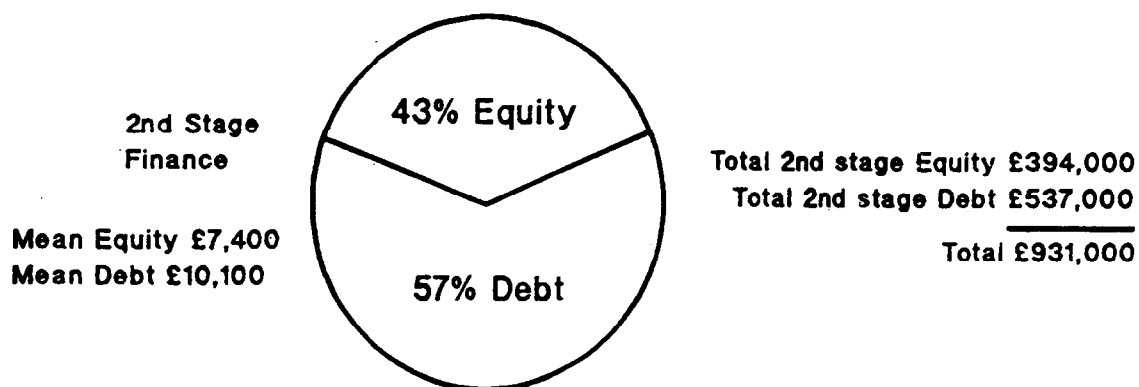
advice, including the Prince's Youth Business Trust, Enterprise agencies etc. For every one pound of training help provided to these G.E.P companies, there has been an equivalent £1 of bank overdraft debt and £1 of owners' equity invested in each business (Exhibit 4).

Exhibit 4

Start-up Finance was weighted slightly more to Equity than Debt....



.....While 2nd Stage Finance was weighted slightly more to Debt than Equity....



With total investment of £1.8 million in new GEP trading operations

Without such capital investment, no beneficial results would have been forthcoming, even though the scale of the enterprises was such that two-thirds of the new starters needed less than £10,000 start-up finance, while just over one-half needed less than £5,000 second stage finance.

The value of the G.E.P Training was revealed more in the short survey results of Philippe Dro (1992):

Was the GEP Important in Your Decision to Start Your Own Business?

1. Survey Results:

<u>YES</u>	11
<u>NO</u>	2

2. Why:

- "Business Plan was basis for raising money (3)"
- "Enabled me to believe in my business"
- "Showed me areas to look out for"
- "Enabled me to appear more professional"
- "Gave me basic business skills (5)"

3. Main Handicap in starting

- "Inexperience" (5)
- "Perceived to be too young to start a business"
- "Lack of Finance" (4)
- "Lack of Knowledge in Field"
- "Locating Suitable Suppliers"
- "Poor Sales Activity"

3. FURTHER G.E.P RESEARCH IN TRAINING EFFECTIVENESS

Because G.E.P training involved a process of selection and was considerably shortened in 1990, further research possibilities on the effectiveness or otherwise of training became possible in two ways:

(i) research on the performance of those students not selected for G.E.P training before 1990

(ii) comparative research on the performance of G.E.P Workshop only participants from 1990, when no further (ie Phase 3) training was available.

(i) Performance of students not selected for the G.E.P

At Cranfield, approximately one out of five students who attended Phase 2 Workshops, was selected for Phase 3 training (Brown & Myers, 1986 - 9). A survey was undertaken in August 1990 on 200 graduates from G.E.P 2,3,4 workshops, who were not selected for further training. From a sample of 76 responses, the majority found both the teaching workshops helpful (95%) and even the negative selection decision (80%) to be appropriate. Nonetheless, nearly one third did actually start their own business, approximately 8 per annum, making 24 start ups in total. Of the two thirds who did not start up (45 students), the majority (89%) still intended to start their own business, most within 5 to 10 years, nearly half proposing to do so with their original business idea. At least the negative selection decision had not deterred these potential entrepreneurs!

A follow up survey was undertaken on the 24 students who had started their own business and although only 6 completed the financial returns (the poor response reflecting the lack of a network, developed so strongly by those graduating from the full G.E.P), the results are shown below:

Non G.E.P trained (sample size 6)	G.E.P Trainees (sample size 17)
First year sales (average) £52,000	£28,000
Second year sales (average) £201,000	£110,000
First year profits (average) £1,600	£6,000
Second year profits (average) £27,250	£15,000
Full-time Employees:	
First year 2	2
Second year 3	3

Although sample sizes were minute, making conclusions highly subjective, the apparently superior performance by those not benefiting from full G.E.P training suggested:

- (a) the need for an added humility on the part of those conducting G.E.P training!
- (b) a "minimalist" approach to training provision might be most suitable for those with strong entrepreneurial convictions, ie a two day workshop was all that strong entrepreneurial students required.

Did the full G.E.P training encourage conservatism amongst participants, were trainers nursing weaker businesses into life? These type of questions, provoked by the above findings, at least stimulated the need for further research information!

(ii) Performance of G.E.P workshop only students from 1990

Accordingly, in April 1992 a further survey was undertaken of the 110 participants in the 1992 G.E.P 2 day workshop-only training (no Phase 3 training being on offer). From 45 replies (41% response rate) it could be established that 9 students had actually started up in business after graduation with comparative trading results as shown below:

Workshop only 1991 - 2 (sample size 9)	GEP 6 Trainees 1990- 91 (sample size 8)
First 6 months sales (total) £120,000 Average per business £ 13,300	£77,112 £ 9,639
First 6 months profits (total): £24,200 Average per business £2,688	£12,712 £ 1,590
Employees (total) 6 full time 18 part time	11 full time 11 part time

The results of this, again, admittedly tiny survey appeared to confirm the findings of the 1990 survey and are being repeated again in 1993 to try to enlarge the sample base.

Is there any comfort left for the training providers in the face of these remorseless findings? Only in one small, but perhaps significant way: the absolute number of new start-ups. By comparing the number of new company start-ups and survival

rates of companies both G.E.P trained and workshop only trained in the 1990 survey, with the number of start-ups in 1992 when only workshops were offered, the following picture emerges:

Year	Workshop Trained	Selection:	Surviving Business	Total new Businesses
1990	120	(a) Further training 1 - 3 years	(a) 49% at 3 yrs = 10 new businesses	} 18
		(b) No training		
1992	120	(a) 20	(b) 8 new starts pa.	} 9
		(b) 100		
1992	120	(a) 0	(a) 0	} 9
		(b) 120		

Without the support of full G.E.P training, therefore, fewer new businesses were created; a conclusion which tended to be confirmed by the reduction in numbers of new graduates becoming self employed in 1991.

4. PRELIMINARY CONCLUSIONS & SUMMARY

This paper has attempted to measure the effectiveness of new business start up training on one specific market segment (graduates), using data collected from one training provider (Cranfield), over a period of nine years. Preliminary conclusions might be:

1. That the rise and recent slight fall in graduate self-employment in the UK has been more than casually connected with the provision of national G.E.P training.
2. That the G.E.P "input" training costs, at Cranfield as an example, have been matched at least and normally bettered by the "output" new business profits by the third year of trading of new G.E.P companies.
3. For every one pound of "input" training cost incurred by the government, there has been a further two pounds of investment by banks and investing partners to produce the favourable "output" results. Training and investment are, necessarily, two separate activities, but training in the start-up area can assist a favourable investment decision.
4. Without the benefit of supportive training programmes, fewer graduates would be likely to start new enterprises immediately on graduation.

As noted in the text, further research is being conducted at Cranfield, particularly concerning the last preliminary conclusions, to attempt to broaden the sample base.

Finally, an observation on trainers might be deduced from this research. By the very nature of their tasks, trainers in the start-up business area have to have a great degree of humility; the entrepreneurial students themselves are undertaking all the risks. Some of our research findings, noted above, will no doubt reinforce this basic humbleness! But trainers should draw at least some comfort from the fact that, by measuring in as broad a manner as possible, using output as well as input measures, training can be shown to provide an added value element in this highest of all risk training areas; in both helping to increase the number of new starts, the financial results of which, at least from the Cranfield G.E.P sample, have been generally favourable.

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