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Adding value to students in higher education: a 5-year analysis of student attainment of National Governing Body Awards in a UK Outdoor Education Degree Programme

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Recent interest in ways of assessing the performance and 'value-added' aspects of higher education and how universities can enhance graduate employability skills has prompted this study into the acquisition of National Governing Body Award (NGBA) qualifications by students on a UK outdoor education degree programme. Students' age, gender, academic and NGBA qualifications, short-term and long-term goals on entry and after each year of study were compiled for students on the BSc (Hons) Outdoor and Environmental Education course at Liverpool John Moores University (n=151 students from five cohorts, 1998–2002). Some 78% of entrants held at least one NGBA with 36%, 9% and 2% holding ≥5, ≥10 and ≥15 NGBAs, respectively, and 100% of graduates held at least one NGBA with 57%, 35% and 8% holding ≥5, ≥10 and ≥15 NGBAs, respectively. Students with non-A-level entry held more NGBAs than students who entered with A-levels but A-level entry students gained NGBAs at a faster rate than those without A-levels. There was no clear relationship between students' age and either the number of NGBAs held on entry, or the number gained during the programme. There was a weak inverse relationship between the number of NGBAs that students held on entry and the number gained while on the programme. The data offer virtually no evidence that the pursuit and acquisition of NGBAs' impacts on students' academic achievement as measured by the class of degree that they are awarded. Comparisons of A-level entry points with final degree class showed surprisingly similar distributions in all classes except for first class awards, where students with A-level entry performed twice as well. Males held a significantly greater number of NGBAs on entry than females (mean of 4.8 compared to 2.9) but once on the programme, the achievements of males and females are equal. Analysis of 57 students' short-term and long-term goals showed that 74% and 72% of students specifically stated their intention to achieve NGBAs in their short-term and long-term goals, respectively, with 50% fully achieving their short-term goals by the end of the programme. Students who are good at setting

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achievable goals and have well-developed time management and study skills are more likely to be successful in courses such as this, which are demanding, require a lot of hours outside the formal class contact time, and require high level decision-making skills to be able to manage successfully conflicts in time and resources.

Introduction and aims

In recent years much interest has centred on ways of assessing the performance of higher education institutions (Peters, 1992; Tam, 2001, 2004) and the 'value-added' aspects of higher education (Chapman, 1996; Tam, 2004). Tam (2001) discusses the notions of quality and performance in higher education and points out that quality may mean different things to different people. Harvey and Green (1993) describe quality as a 'relative concept' which is relative to the stakeholders in higher education: students, employers, teaching and support staff, government and its funding agencies, accreditors, validators, auditors and assessors (including professional bodies) (Burrows & Harvey, 1992). Barnett (1992) claims that at the forefront of any considerations of quality in higher education should be the improvement of the student experience. Tam (2001, pp. 53–54) concludes that 'to understand quality it is necessary to recognize that it has contradictory meanings that can lead to different assessment methods, and thus different practical outcomes'. Tuition fee increases for students entering higher education in the UK from 2006 is likely to place greater pressure on universities to demonstrate how they can 'add value' to their students. For example, at Liverpool John Moores University (LJMU) the LJMU Plus initiative launched in 2007 aims to ensure that undergraduate students will develop identified core Graduate Skills within their academic programmes, and will also be encouraged to develop specific high-level personal World-of-Work skills. All undergraduates will be expected to achieve minimum standards in a range of eight graduate skills, derived from a set of generic national benchmarks. The skill areas include: analysing and solving problems; team and interpersonal skills; verbal communication; written communication; personal planning and organizing; initiative; numerical reasoning and information literacy; and ICT. The enhancement and clear articulation of these graduate or employability skills to potential employers is to be given high priority at this institution and national initiatives by the Higher Education Academy (Knight & Yorke, 2003; Yorke, 2005; Yorke & Knight, 2006) give detail on what is meant by employability, although the exact mechanisms for the assessment of the graduate employability skills at LJMU is still being reviewed at the time of writing. Given the UK government's aspiration for 50% of 18–30 year olds to attend university courses, there are likely to be impacts on the outdoor 'industry' and career development within the sector, particularly given the expansion in the number of university programmes with the words 'outdoor' and 'adventure' in the title, which in 2006 stand at 118 and 86, respectively (UCAS, 2006) compared with fewer than 20 in 1998. Not surprisingly there is great diversity in philosophies and approaches within the 30 or so institutions offering these types of programmes as highlighted in Humberstone and Brown (2006).

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Humberstone (2004) points out that there has been criticism of higher education from sectors of the outdoor profession in relation to (1) the inclusion and development of students' practical skills within degree programmes and whether graduates possess the national governing body awards, and (2) whether practitioners in the outdoors really need academic outdoor 'theory'? Humberstone and Mannerings (2004) have also highlighted this issue with reference to one particular programme. Barnes (2002, 2004) has discussed the role, content and future of outdoor degrees, questioning whether we are getting the balance right. Hodgson and Sharp (2000) and Barnes (2006) point out that outdoor education undergraduates are more likely to gain employment in the industry if they possess a wide profile of technical skills and NGBAs. These NGB awards assure potential employers that graduates possess a certain level of technical competence, operate to agreed standards of safety and have a certain level of teaching or instructional ability. However, it should also be noted that much of the personal experience required to prepare for these NGBAs must be gained in a student's 'free' time either within or outside of their degree programme. There have been significant changes in the way in which students pay for their higher education with moves away from grants in the 1980s to the more widespread dependence on student loans, parental contributions and self-generated income. Many students therefore hold part-time jobs while they are studying full-time, and/or take part- or full-time employment during their vacations. This need to work to finance their studies eats heavily into the time when students could be gaining vital experience in the outdoors in order to prepare for their NGBAs, which may result in fewer gaining NGBAs in the future.

It is no surprise that at outdoor education degree validation events where NGBAs are included in the programme, a frequent area of questioning centres around the inclusion of NGBAs: should they be included in the curriculum or should they be optional extras (which attract additional costs for students)? Should NGBAs attract university credit and if so at what level? Are the NGBA assessment criteria (which are mainly practical) worthy of degree level credit? Can NGBA assessments be aligned with criteria set out by the university? How will students be assessed by university staff if outside assessors are used for the NGBA? Will a student who pursues NGBAs find it conflicts with the academic aims of the degree?

This paper aims to analyse students' attainment of NGBAs on entry and throughout an outdoor and environmental education degree programme over a 5-year period and to examine these data in the light of other factors such as students' entry qualifications, final degree classification, age, gender and stated short-term and long-term goals.

Specific research questions were:

1. What proportion of students hold NGBAs on joining and completing the programme and which awards are they?
2. Are there differences in NGBA achievements between students who enter with A-level points and those with other entry qualifications? How does students' age on entry affect achievement in gaining NGBAs?

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3. Is the number of NGBAs a student holds on entry linked to their achievement in gaining further NGBAs during the programme?
4. Is there any evidence to suggest that students who do well in gaining NGBAs during the degree perform less well academically?
5. Do students with higher entry qualifications gain higher degree classifications?
6. Are there differences in NGBA achievements between cohorts?
7. Can gender differences explain different attainment in NGBAs?
8. How do students' short-term and long-term goals as stated on entry to the programme relate to their achievements in gaining NGBAs?

Methodology and context

Students' age, gender, entry qualifications and NGBA qualifications were compiled for students studying for the BSc (Hons) Outdoor and Environmental Education at Liverpool John Moores University. Data were gathered via a Professional Development Profile (PDP) completed by all students on entering and leaving the programme, and supplemented by questionnaires administered at the end of Levels 1 and 2. Data were assembled for five cohorts (from 1998 to 2002). Of the 188 students who were enrolled on the programme over these 5 years, 164 graduated successfully with a further 5 still enrolled but had not completed the programme at the time the analysis was undertaken. This leaves 19 (10.1%) who enrolled but either transferred out of the programme (usually in Level 1) or withdrew.

NGBA qualifications were obtained for 151 of the 164 successful graduates (92%) on entry, at the end of Level 1, at the end of Level 2 and on graduation. While details of all NGBAs held by students on entry were recorded, only those deemed to be most relevant to the programme's aims were tracked at Levels 1, 2 and 3. Table 1 shows the NGBA qualifications which were tracked, distinguishing between personal competence awards and coaching/leadership awards, with those under the sub-heading 'Other' noted as extra information. Students' final degree classification and their stated short-term and long-term goals were also added to the dataset. Before discussing the results, some background on the structure of the programme with reference to NGBAs is necessary.

The programme is modular with students studying 120 credits at each of the three levels. A key philosophy of the programme team is the integration of theory and practice wherever possible, and this is achieved by ensuring that staff teach across both theoretical and practical modules. Nevertheless, some modules are identified as being more practical in nature, and it is within these that NGBAs are addressed. One of the first modules which students take at Level 1 is called Introduction to Outdoor Pursuits taken in Semester 1 where 11 field days (with two overnight residentials) cover rock climbing and kayaking (3–4 days each), problem-solving, orienteering, adventure activity (gorge ascent), urban-based outdoor pursuits planning and some take an optional introduction to the John Muir Award which develops competence and understanding in environmental matters. In Outdoor Pursuits Leadership 1: Psychology and Practice in Semester 2 all students undertake a 6-day

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Table 1. Summary of National Governing Body Awards in Outdoor Education held by students in this study

Kayaking and Canoeing			
Personal competence awards			
BCU One Star Inland Kayak Award	BCU	1*K	Basic introductory kayaking award (flat water)
BCU Two Star Inland Kayak Award	BCU	2*K	Medium level kayaking award (flat water) covering a range of skills/strokes
BCU Three Star Inland Kayak Award	BCU	3*K	Higher level kayaking award (flat water) covering a range of skills/strokes: required for entry to coaching scheme
BCU Four Star Inland Kayak Award	BCU	4*K	Higher level kayaking award (moving water) covering a range of skills/strokes
BCU Kayak Safety Test	BCU	KST	Kayak Safety Test includes basic lifesaving and rescue skills
BCU One Star Open Canoe Award	BCU	1*C	Basic introductory open canoe award (flat water)
BCU Two Star Open Canoe Award	BCU	2*C	Medium level open canoe award (flat water) covering a range of skills/strokes
BCU Three Star Open Canoe Award	BCU	3*C	Higher level open canoe award (flat water) covering a range of skills/strokes: required for entry to coaching scheme
BCU Four Star Open Canoe Award	BCU	4*C	Higher level open canoe award (moving water) covering a range of skills/strokes
BCU Open Canoe Safety Test	BCU	CST	Canoe Safety Test includes basic lifesaving and rescue skills
Coaching awards			
BCU Canoe Inland Kayak Coach Level 2 Training	L2K	TRG	Training to coach groups on sheltered/flat water
BCU Canoe Inland Kayak Coach Level 2 Assessment	L2K	AST	Assessed to coach groups on sheltered/flat water
BCU Canoe Inland Kayak Coach Level 3 Training	L3K	TRG	Training to coach groups on moving water (Grade II)
BCU Canoe Inland Kayak Coach Level 3 Assessment	L3K	AST	Assessed to coach groups on moving water (Grade II)
BCU Canoe Open Canoe Coach Level 2 Training	L2C	TRG	Training to coach groups on sheltered/flat water
BCU Canoe Open Canoe Coach Level 2 Assessment	L2C	AST	Assessed to coach groups on sheltered/flat water
BCU Canoe Open Canoe Coach Level 3 Training	L3C	TRG	Training to coach groups on moving water (Grade II)
BCU Canoe Open Canoe Coach Level 3 Assessment	L3C	AST	Assessed to coach groups on moving water (Grade II)

(*Continued*)

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Table 1. (*Continued*)

Mountaineering: Coaching/ Leadership awards			
Single Pitch Award (Rock Climbing) Training	SPA	TRG	Training to supervise novice groups on single pitch climbs and climbing walls
Single Pitch Award (Rock Climbing) Assessment	SPA	AST	Assessed to supervise novice groups on single pitch climbs and climbing walls
Walking Group Leader Award	WGL	AWD	Assessed to lead groups on hill walks: non-mountainous high or remote country known variously as upland, moor, bog, fell, hill or down
Mountain Leader Award (Summer) Training	MLS	TRG	Training to lead groups on all hills and mountains throughout the UK and Ireland in summer conditions
Mountain Leader Award (Summer) Assessment	MLS	AST	Assessed to lead groups on all hills and mountains throughout the UK and Ireland in summer conditions
Mountain Leader Award (Winter) Training	MLW	TRA	Training to lead groups on all hills and mountains throughout the UK and Ireland in winter conditions
Mountain Leader Award (Winter) Assessment	MLW	AST	Assessed to lead groups on all hills and mountains throughout the UK and Ireland in winter conditions
Mountain Instructor Award Training	MIA	TRG	Training in the skills required for the instruction of summer mountaineering where a rope is required, including all aspects of rock climbing and scrambling
Mountain Instructor Award Assessment	MIA	AST	Assessed in the skills required for the instruction of summer mountaineering where a rope is required, including all aspects of rock climbing and scrambling
Caving: Coaching/ Leadership Awards			
Local Cave Leader Level 1 Training	LCL 1	TRG	Training to lead groups underground in caves and mines (non-vertical systems)
Local Cave Leader Level 1 Assessment	LCL 1	AST	Assessment to lead groups underground in caves and mines (non-vertical systems)
Local Cave Leader Level 2 Training	LCL2	TRG	Training to lead groups underground in caves and mines (vertical systems with pitches up to 18 m (60') explored with ladders or single rope technique)
Local Cave Leader Level 2 Assessment	LCL2	AST	Assessed to lead groups underground in caves and mines (vertical systems with pitches up to 18 m (60') explored with ladders or single rope technique)

(*Continued*)

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Table 1. (*Continued*)

First Aid			
Award prior to joining the programme: various providers (e.g. St John's)	1st Aid	Pre	
Rescue and Emergency Care Level 2 (15 hours)	1st Aid	Level 2	
Others			
Alpine Skiing, Ski Leader, British Association of Snowsport Instructors			Mountain Bike Leader, Trail Cycle Leader
Archery			Pool Lifeguard, Swimming, Bronze Medallion
Basic Expedition Leader Award (BELA)			Raft Guide
British Canoe Union Five Star Inland Kayak Award			Royal Yachting Association Dinghy Sailing, Yacht Helmsman, Competent Crew, Dragon Boat Helm
British Orienteering Federation: Levels 1 and 2			Royal Yachting Association Powerboat
Bronze Navigation Award			Sea Kayak Proficiency (Sea 4* equivalent); Sea Kayak Coach
Duke of Edinburgh's Award (Bronze, Silver, Gold)			SCUBA Diving, BSAC, PADI
First Aid Trainer			White Water Safety and Rescue; Swift Water Technician
High/Adventure Ropes			Windsurfing
John Muir Award			

*BCU = British Canoe Union.

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Mountain Leader (Summer) training course, with only those who have demonstrated that they have 20 quality days of hillwalking experience (regulation set by Mountain Leader Training England) actually having their training approved. Also in this module students opt for a further 4 days of rock climbing (during which suitably experienced students may opt to take Single Pitch Award [SPA] training or assessment) or 4 days of kayaking (during which students may opt for British Canoe Union [BCU] 2- or 3-star training and assessment and kayak safety test training and assessment). Staff external to the University are normally hired for NGBA assessments.

In Advanced Outdoor Pursuits 1 at Level 2 all students undertake the 2-day Rescue and Emergency Care First Aid course and they can opt for British Orienteering Federation Level 1 and/or 2 or the John Muir Award and all gain further instruction in multi-pitch rock climbing and white water kayaking. Occasionally those students with sufficient experience are given opportunities to take SPA and BCU assessments during this module. In Advanced Outdoor Pursuits 2 students undertake a 4-day

winter mountaineering skills course and 5-day ski leadership course in Scotland (neither of which contribute to NGBAs), then a 5-day caving and karst landscapes course in Yorkshire (during which suitably qualified students can opt to take Local Cave Leader Level 1 training). At Level 3 in Outdoor Pursuits Leadership 2 students with the pre-requisite experience can opt for two NGBA assessments from: Mountain Leader (Summer) Award; SPA and BCU Level 2 Coach. Students who do not have sufficient experience are assessed by University staff and given a mark counting towards their module, but at a different level to that required by the NGBA. This practical assessment of students' competence (to which NGBAs can count) will typically be weighted at no more than 34% of a university module, the remainder being assessed by written coursework or examination. Thus, opportunities are made within the programme for students to gain these important NGBAs. However, only those with sufficient personal experience of climbing, kayaking or mountain walking are encouraged to present themselves for assessment in NGBAs where outside assessors are hired and work alongside University staff. Candidates presenting themselves for NGBA assessments in Mountain Leader [ML], SPA and Level 2 Kayak [L2K] are required to pay a contribution towards the hire of external assessors. However, by using University staff and resources, this contribution is around 40–50% of the commercial rate for these assessments and is designed to encourage students to take this opportunity to be assessed. Also, by embedding these assessments within a Level 3 University module which involves University staff in the practical assessment process, students' practical performance contributes towards their module mark as well as towards the NGBA. Students who opt not to be assessed for the NGBAs are still required to undertake University-designed practical assessment of an equivalent duration, but with no extra cost and by University staff, rather than hiring external staff.

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Results and discussion

What proportion of students hold NGBAs on joining and completing the programme and which awards are they?

Of the total number of students surveyed (n=151) from the five cohorts, 118 (78%) held at least one NGBA on entry, with 55 (36%) holding 5 or more NGBAs on entry and 13 (9%) and 3 (2%) holding ≥10 and ≥15 NGBAs, respectively (Table 2). Entry requirements for the programme take into consideration experience and outdoor NGBAs as well as academic qualifications. Figure 1 shows the number of students holding various NGBAs on entry, and the numbers gained during the 3 years on the programme. As well as those in the chart, there are a range of other NGBAs listed at the bottom of Table 1 which students hold on entry, but these were not tracked through the programme for this study. Of those shown in Figure 1, a first aid qualification, followed by BCU kayak star tests and safety test are the most commonly-held awards. Then SPA and MLS training are next most common, with BCU open canoe star tests following. A few students hold SPA, MLA, L2K, L3K, Level 2 Canoe

Table 2. Mean and maximum numbers of NGBAs held by students at different levels of the programme, and number (and %) with ≥1, ≥5, ≥10 and ≥ 15 NGBAs at different points in the programme (n=151)

	Held on entry	Gained in Level 1	Gained in Level 2	Gained in Level 3	Gained during degree	Total NGBAs held on leaving
Mean	4.0	1.4	0.9	0.3	2.6	6.6
Max.	23	7	6	4	10	24
No. (%) with at least 1 NGBA	118 (78)	114 (75)	105 (70)	38 (25)	131 (87)	151 (100)
No. (%) with 5 or more NGBAs	55 (36)	2 (1.3)	1 (0.7)	0 (0)	18 (12)	86 (57)
No. (%) with 10 or more NGBAs	13 (9)	0 (0)	0 (0)	0 (0)	0 (0)	35 (23)
No. (%) with 15 or more NGBAs	3 (2)	0 (0)	0 (0)	0 (0)	0 (0)	8 (5)

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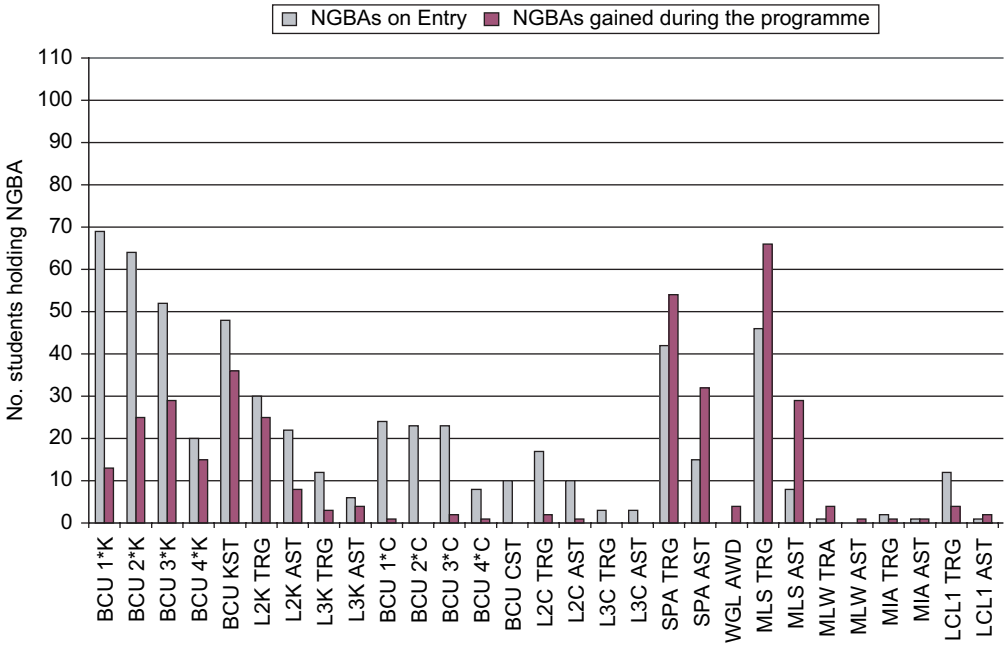

Figure 1. Numbers of students holding various NGBAs on entry and gained during the programme (n=151).

[L2C], L3C assessments on entry. During the programme, all students gain REC L2 first aid and there is a focus on students gaining a range of kayaking NGBAs (Kayak Safety Test [KST], 2/3 star and Level 2 training and assessment) and SPA

and Mountain Leader Summer [MLS] training and assessment. A minority of students gain other higher level NGBAs such as Mountain Leader Winter [MLW] training and assessment, MIA training and assessment, L3K training and assessment, and LCL Level 2 training and assessment. The programme is structured to give opportunities for all students to gain NGBAs and the programme aims for all graduates to work towards gaining at least two awards from what programme staff consider to be the three most widely requested entry level NGBAs by employers in the outdoor industry: MLS, SPA and L2K/L2C. Table 3 shows that 8 students (5%) held the MLS award on entry to the programme and 29 (19%) gained the award during the programme giving a total of 37 (24%) of graduates holding MLS. A total of 15 students (10%) held the SPA on entry and 32 (21%) gained the award during the programme giving a total of 47 (31%) of graduates holding SPA. Thirty students (20%) held the L2K coach award on entry and 8 (5%) gained the award during the programme giving a total of 38 (25%) of graduates holding L2K. So, for these three key NGBAs 71 (47%) of all graduates between 1998–2002 held at least one, 36 (24%) held at least two and 9 (6%) held all three or higher awards such as MIA and/or L3K. All students enter with a mean of 4.1 NGBAs (Table 2), gain a mean of 3.2 NGBAs during the programme and so graduated with a mean of 7.3, which is equivalent to a gain of 51% in their NGBA profile. So, 151 (100%) of students left with at least one NGBA, 86 (57%) left with 5 or more NGBAs, and 35 (23%) and 8 (5%) left with ≥10 and ≥15 NGBAs, respectively.

Are there differences in NGBA achievements between students who enter with A-level points and those with other entry qualifications? How does students' age on entry affect achievement in gaining NGBAs?

Students who entered the programme with A-level points ($n=62$) between 1998 and 2002 held a mean of 4.1 NGBAs (from Table 1) whereas those entering with 'other' qualifications (non-A-level) ($n=89$) held a mean of 4.4 NGBAs. The Student's t-test showed no significant difference between these means ($t=-0.34$, df=149). However, students who entered with A-level points gained a mean of 3.8 NGBAs during the programme as compared with 2.6 for non-A-level entry students. These means are significantly different ($t=3.42$, df=149, $p < 0.001$) showing that there is a real difference between the NGBA achievements of A-level and non-A-level students. On graduating students who had entered with A-level points left with a mean of 7.9 NGBAs, whereas students who entered without A-levels left with a mean of 7.0 NGBAs. The difference between these means was not statistically significant ($t=1.31$, df=149). Thus, the data show that while students with non-A-level entry to the programme held slightly more NGBAs than students who entered with A-levels, students who entered with A-level points gained NGBAs while on the programme at a faster rate than those who entered without A-levels, graduating with a higher average number of NGBAs. This difference is difficult to explain, but it could be connected to an age difference: the age of A-level entry students ranged from 18–32 years (mean=20 yrs 7 months) whereas non-A-level entry students' age ranged

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Table 3. NGBA data for five cohorts of students (1998–2002) on the BSc (Hons) Outdoor and Environmental Education course

NGBAs for 151 students	BCU Star Tests (Kayak)					L2K	L2K	L3K	L3K	BCU Star Tests (Canoe)					L2C	L2C
1998—2002	1*K	2*K	3*K	4*K	KST	TRG	AST	TRG	AST	1*C	2*C	3*C	4*C	CST	TRG	AST
No. held on entry	69	64	52	20	48	30	22	12	6	24	23	23	8	10	17	10
No. passed during Level 1	11	23	21	12	33	13	2	1	2	1	0	2	1	0	2	1
No. passed during Level 2	2	2	4	2	2	9	4	1	1	0	0	0	0	0	0	0
No. passed during Level 3	0	0	4	1	1	3	2	1	1	0	0	0	0	0	0	0
Total passed	82	89	81	35	84	55	30	15	10	25	23	25	9	10	19	11
Total passed Levels 1—3	13	25	29	15	36	25	8	3	4	1	0	2	1	0	2	1
% passed Levels 1–3	16	28	36	43	43	45	27	20	40	4	0	8	11	0	11	9

	L3C	L3C	SPA	SPA	WGL	MLS	MLS	MLW	MLW	MIA	MIA	LCL 1	LCL 1	LCL2	CIC	1st
1998—2002	TRG	AST	TRG	AST	AWD	TRG	AST	TRA	AST	TRG	AST	TRG	AST	TRG	TRG	Aid
No. passed on entry	3	3	42	15	0	46	8	1	0	2	1	12	1	0	0	73
No. passed during Level 1	0	0	35	9	0	66	5	0	1	1	0	2	2	0	0	0
No. passed during Level 2	0	0	13	13	0	0	6	3	0	0	1	2	0	1	1	101
No. passed during Level 3	0	0	6	10	4	0	18	1	0	0	0	0	0	0	0	0
Total passed	3	3	96	47	4	112	37	5	1	3	2	16	3	1	1	174
Total passed Levels 1—3	0	0	54	32	4	66	29	4	1	1	1	4	2	1	1	101
% passed Levels 1–3	0	0	56	68	100	59	78	80	100	33	50	25	67	100	100	58

(leadership/instructional awards sought by employers are shaded, the darker shaded assessment awards being required by most employers)

from 18–38 years (mean 22 yrs 10 months), giving them an average of over two years more to have gained their NGBAs. Candidates have to be 18 years before they can register on the BCU and MLTE schemes. Figure 2 shows scattergraphs of the number of NGBAs held on entry vs. students' age on entry (Figure 2A) and the number of NGBAs gained during the programme vs. students' age on entry (Figure 2B). While the two students who held the highest number of NGBAs on entry were aged 27 and 29 years, there is virtually no relationship between these variables. In Figure 2B no clear relationship exists either, but an upper envelope drawn around the data points suggests that the younger students tend to gain the highest number of NGBAs. Personal observation also suggests that mature students place the acquisition of NGBAs as a lower priority compared with the academic learning on the programme.

Is the number of NGBAs a student holds on entry linked to their achievement in gaining further NGBAs during the programme?

Figure 2C shows the relationship between the number of NGBAs students held on entry vs. the number gained while on the programme. While there is great variability, there is a weak inverse relationship indicating that students who hold more NGBAs on entry, gain fewer while on the programme. This is not surprising and may be because these students prioritize other aspects of their learning, or use the time when they could be gaining experience in the outdoors which could contribute to higher level NGBAs for doing part- or full-time work to help with financing their studies (Ford, Bosworth, & Wilson, 1995), or for concentrating on their academic work.

Is there any evidence to suggest that students who do well in gaining NGBAs during the degree perform less well academically?

When the number of NGBAs held on entry and gained during the programme are examined by degree class conferred at the end of the programme (Table 4), it can be seen that students in all classes improved the mean NGBAs held by 52–55% during the programme except for the three students who gained ordinary pass degrees where the gain in NGBAs was 15%. If this small number of students is disregarded, there seems to be no evidence that the pursuit and acquisition of NGBAs affects the degree class awarded in this programme. However, it is difficult to make the claim that pursuing NGBAs while doing a degree does not affect academic performance without making comparisons with similar programmes where NGBAs are not offered, and even then such a comparison with different cohorts of students would be fraught with difficulties. In this programme, a proportion of the marks available in some practical modules (usually 25–30% of the module mark) are awarded for practical performance which may be demonstrated by holding NGBAs. Therefore, students who do well in gaining NGBAs will also gain some marks in these practical aspects of certain modules, although the overall contribution to the degree classification for these practical assessments is small (<2%). This is because of the emphasis

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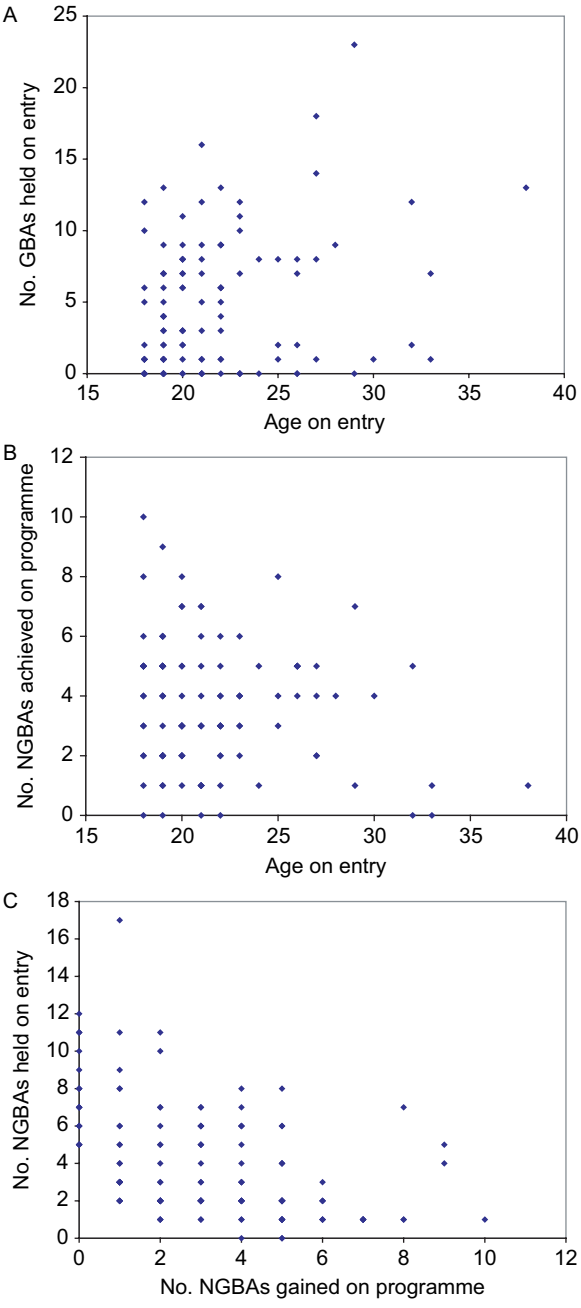

Figure 2. Scattergraph of number of NGBAs held on entry to the programme vs. students' age on entry (n=61).

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Table 4. NGBA statistics and degree classifications for five cohorts of students on the BSc (Hons) Outdoor and Environmental Education course (1998–2002)

	Mean on entry	Mean gained in Level 1	Mean gained in Level 2	Mean gained in Level 3	Mean gained Levels 1–3	Mean NGBAs on graduating	% gain levels 1–3
First class (n=7)	7.4	2.4	1.4	0.3	4.1	11.6	53
Upper second (n=32)	5.0	1.5	1.3	0.4	3.2	8.2	52
Lower second (n=83)	3.7	1.6	1.2	0.3	3.1	6.9	55
Third class (n=15)	3.7	2.0	1.1	0.4	3.5	7.3	54
Pass degree (n=3)	5.7	0.7	0.0	0.0	0.7	6.3	15

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placed by the university's academic regulations which require students to pass Level 1 (there is no contribution from Level 1 to final degree classification), Level 2 counts for 25% of the degree classification, and Level 3 counts for 75%. There are fewer marks available for practical performance at Level 3 in this programme.

Do students with higher entry qualifications gain higher degree classifications?

An analysis of A-level entry points compared to degree class achieved by five cohorts (1998–2002) of students on the BSc (Hons) Outdoor and Environmental Education course (Table 5) shows surprisingly similar distributions in all classes except for first class degrees, where students with A-level entry performed twice as well. In all other classes, students with non-A-level entry performed equally as well as those with A-levels. The five students with A-levels who gained first class

Table 5. Analysis of A-level entry points by degree class for five cohorts of students on the BSc (Hons) Outdoor and Environmental Education course (1998–2002)

Degree classes	1	2.1	2.2	3	Pass	All
Number of students with non-A-level entry (% in brackets)	2 (3)	13 (21)	38 (61)	7 (12)	2 (3)	62
Number of students with A-level entry (% in brackets)	5 (7)	14 (21)	39 (58)	7 (10)	2 (4)	67
Mean no. of A-level points	246	167	180	106	170	174
Highest no. of A-level points	340	340	460	240	180	
Lowest no. of A-level points	120	60	60	40	160	
Totals (% in brackets)	7 (5)	27 (21)	77 (60)	14 (11)	4 (3)	129

degrees had a mean of 246 A-level points (where A=120, B=100, C=80, etc.) (n=5), which was significantly higher than those who gained class 2.1 (mean of 167 points, n=21); class 2.2 (mean of 180 points, n=39), class 3 (mean of 106 points, n=7) and pass degree (mean of 170 points, n=2). Sear (1983) in an analysis of 41,083 graduates from a range of subject disciplines and all UK universities, found that the 'correlation between A-level grades and degree results was statistically significant but relatively weak … and for mature students the relationship is particularly weak' (Sear, 1983, p. 618). Chapman (1996) reported a positive correlation between A-level scores and degree results, but the strength of the relationship varied between subjects. In this study the correlation coefficient between A-level points and degree class was 0.03 (n=58), which shows that there was no correlation. A study of variability in degree results from UK outdoor education programmes, similar to that conducted for Geography by Chapman (1994) has not been conducted, but may prove valuable to both prospective students and employers.

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Are there differences in NGBA achievements between cohorts?

Analysis of NGBA achievements by cohort (Table 6) does reveal differences between cohorts, and it appears that the 1998 and 1999 cohorts did significantly better at gaining NGBAs while on the programme (means of 4.8 and 3.3 NGBAs per student, respectively) than the 2000 and 2001 cohorts (means of 2.2 NGBAs per student in both years). The 2002 cohort appeared to achieve better (mean of 3.2 NGBAs per student) although this is an incomplete dataset. It is difficult to ascertain from these limited data whether other pressures (e.g. financial) were making it more challenging for students to achieve NGBAs in 2000/2001 than in the previous 2 years, although the author's perception is that as the cost of higher education rises, students are being increasingly forced to choose between financial employment in their spare time, academic study and gaining experience for NGBAs, and this may well be the order in which students have to prioritize their time at University.

Table 6. Analysis of NGBA achievements on the BSc (Hons) Outdoor and Environmental Education course (1998–2002) by cohort

Year	No. students	Total NGBAs held on entry	Mean no. NGBAs held on entry per student	Total NGBAs gained during degree	Mean no. NGBAs gained during degree per student
1998	30	113	3.8	143	4.8
1999	43	218	5.1	143	3.3
2000	39	133	3.4	86	2.2
2001	30	147	4.9	65	2.2
Mean		153	4.2	109	3.1

Can gender differences explain different attainment in NGBAs?

Analysis of NGBA achievements by gender (Table 7) show that males hold a significantly greater number of NGBAs on entry than females (mean of 4.8 compared to 2.9). However, once on the programme, the achievements of males and females is almost the same, with the mean number of NGBAs achieved while on the programme 3.0 and 3.1 for females and males, respectively. The average age of males and females on entry is virtually identical at just over 21.5 years so that age is unlikely to bias these results. Issues of gender in outdoor education have been well documented (Humberstone, 1986, 1990; Humberstone & Lynch, 1991) and it would be interesting to discover whether the results reported in this study hold for the wider outdoor education community.

How do students' short-term and long-term goals as stated on entry to the programme relate to their achievements in gaining NGBAs?

Examples of short-term (1–2 years) and long-term (3 years or more) goals which make direct reference to NGBAs are given in Table 8. These were stated by students at the start of the Outdoor and Environmental Education programme within their Professional Development Profile. In an analysis of 57 students' short-term and long-term goals, 42 (74%) of students specifically stated their intention to achieve NGBAs in their short-term goals and 41 (72%) stated their intention to achieve NGBAs in their long-term goals. Others identify graduate skills such as using computers, improving confidence and inter-personal skills and gaining skills at academic/report writing for example. However, if more than 70% of students were stating that the achievement of NGBAs is important in their short-term and long-term goals, they are fully aware of the need to demonstrate their practical skills and competences (by holding NGBAs) to employers, and students may well have chosen to come on this particular programme because of its reputation for helping students to achieve NGBAs. Hodgson and Sharp (2000) stated that students on their outdoor education

Table 7. Analysis of NGBA achievements on the BSc (Hons) Outdoor and Environmental Education course (1998–2002) by gender

	No. students	Average age on entry	Mean no. NGBAs per student on entry	Mean no. NGBAs per student gained during Year 1	Mean no. NGBAs per student gained during Year 2	Mean no. NGBAs per student gained during Year 3	Total NGBAs achieved while on the programme Years 1–3
Females	40	21 yrs 7 months	2.9	1.4	1.3	0.3	3.0
Males	111	21 yrs 8 months	4.8	1.7	1.1	0.4	3.1

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Table 8. Examples of short- and long-term goals as stated by students at the start of the Outdoor and Environmental Education programme (examples taken from 1998–2002 cohorts)

Short-term goals	Long-term goals
Pass level 2 of course successfully; gain MIA Award and Level 2 Coach Award (kayak); complete Winter ML training and work towards assessment	Gain MIC Award and achieve a good Honours Degree in Outdoor and Environmental Education
To improve personal climbing skills so I am ready to do SPA training	Level 2 coach for kayaking and mountain leadership by the end of the course if not shortly afterwards
SPA Assessment; ML Assessment; Cave Leader L2	To open my own business, within the outdoors
To keep up with the work, especially the logbook by getting more experience outside the course outdoor days. To build up my confidence again	To achieve the basic instructional qualifications including ML Summer and SPA
2.2 at end of Level 1, 4* kayak training, SPA training and ML training	Level 3 Coach Inland, ML Holder, SPA Holder
Meet deadlines, keep on top of the work load and read around the subjects as much as possible. I intend to concentrate on the academic side of the course since my NGB qualifications are at a good level	Meet all work deadlines, push my climbing grade, do my MIA training, obtain Coach level 4
I would like to gain coaching awards in walking, climbing and kayaking as well as improve my experience in all aspects of the outdoor industry	I would eventually like to be a professional outdoor enthusiast, who teaches throughout the world

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programme at the University of Strathclyde who were successful in gaining NGBAs 'place great store in structured goal setting behaviour' (p. 199). Goal setting is a well-known technique for enhancing motivation and concentration, for building self-confidence, and can help individuals to manage time and resources effectively (Schmidt & Lee, 1999; Whitmore, 1992; Winter, 1995). Goal setting would seem, therefore, to be extremely important for students who are faced with managing not only their academic studies and paid employment, but also their time to work towards gaining NGBAs. In a closer examination of a sub-sample of 20 students who set themselves short-term goals which involved passing NGBAs (as required in their Professional Development Profile completed in the first month at university), 10 (50%) fully achieved their goals by the time they graduated, 7 (35%) partially met their goals by achieving one-half of the NGBAs or more, and 3 (15%) achieved less than one-half of the NGBA goals they set themselves. Goal setting by students at the start of a university programme, when many are starting a new life in a new city, must be a difficult task when the time demands of their academic studies and paid employment are perhaps unknown. Some may not be clear as to what exactly is involved in the training, logging or experience and assessment for key NGBAs, or

the time commitment which is required. Many students refine their goals and in their study Hodgson and Sharp (2000) comment that students 'set various levels of goals and are prepared to review goals in the light of changing circumstances' (p. 199). In summary then, it seems likely that students who are good at setting achievable goals and have well developed time management and study skills are more likely to be successful in courses such as this, which are demanding, require a lot of hours outside the formal class contact time, and require high-level decision-making skills to be able to manage successfully conflicts in time and resources (Main, 1980).

Conclusions

Of the total number of students surveyed ($n=151$) from the five cohorts, 118 (78%) held at least one NGBA on entry, with 55 (36%) holding five or more NGBAs on entry and 13 (9%) and 3 (2%) holding ≥10 and ≥15 NGBAs, respectively. On entry to the BSc (Hons) Outdoor and Environmental Education course, in terms of NGBAs already held, a first aid qualification, followed by BCU kayak star tests and the safety test were the most popular. Then SPA and MLS training were next in popularity, with BCU open canoe star tests following. A few students held SPA, MLA, L2K, L3K, L2C, L3C assessments on entry. During the programme, all students gained REC L2 first aid and there was a focus on students gaining a range of kayaking NGBAs (KST, 2/3 star and level 2 training and assessment) and SPA and MLS training and assessment. A minority of students gained other higher level NGBAs such as MLW training and assessment, MIA training and assessment, L3K training and assessment; and LCL Level 2 training and assessment.

Students with non-A-level entry to the programme held slightly more NGBAs than students who entered with A-levels. Students who entered with A-level points gained NGBAs while on the programme at a faster rate than those who entered without A-levels, graduating with a higher average number of NGBAs. There was no clear relationship between students' age and either the number of NGBAs they held on entry, or the number they gained during the programme, but the data and personal observations suggest that the younger students tended to gain the highest number of NGBAs and that mature students placed the acquisition of NGBAs as a lower priority compared with the academic learning on the programme.

There was a weak inverse relationship between the number of NGBAs students held on entry and the number gained while on the programme, indicating that students who held more NGBAs on entry gained fewer while on the programme. The data offer virtually no evidence that the pursuit and acquisition of NGBAs affected the degree class awarded in this programme.

The analysis of A-level entry points compared to degree class achieved by five cohorts ($n=157$) of students showed surprisingly similar distributions in all classes except for first class degrees, where students with A-level entry performed twice as well. In all other classes, students with non-A-level entry performed equally well when compared with those with A-levels. There was no correlation between A-level points and degree class.

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Analysis of NGBA achievements over 5 years does reveal differences between cohorts, and it appeared that the 1998 and 1999 cohorts did significantly better at gaining NGBAs while on the programme (means of 4.8 and 3.3 NGBAs per student, respectively) than the 2000 and 2001 cohorts (means of 2.2 NGBAs per student in both years). The 2002 cohort appeared to achieve better (mean of 3.2 NGBAs per student) though this is an incomplete dataset. Analysis of NGBA achievements over the 5 years by gender showed that males held a significantly greater number of NGBAs on entry than females (mean of 4.8 compared to 2.9). However, once on the programme, the achievements by males and females was almost the same, with the mean number of NGBAs achieved while on the programme 3.0 and 3.1 for females and males, respectively. An analysis of 57 students' short-term and long-term goals showed that 42 (74%) of students specifically stated their intention to achieve NGBAs in their short-term goals (1–2 years) and 41 (72%) stated their intention to achieve NGBAs in their long-term goals (3 years or more). A closer examination of a sample of 20 students who set themselves short-term goals at the start of the programme, which involved passing NGBAs, revealed that 10 (50%) fully achieved their goals, 7 (35%) partially met their goals by achieving one-half of the NGBAs or more, and 3 (15%) achieved less than one-half of the NGBA goals they set themselves. Discussion concluded that students who were good at setting achievable goals and had well developed time management and study skills were more likely to be successful in programmes such as this, which are demanding, require a lot of hours outside the formal class contact time, and require high level decision-making skills to be able to successfully manage conflicts in time and resources.

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