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# Effectiveness of instructor behaviours and their relationship to leadership

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This study analysed qualitatively the nature of instructor behaviours and their relationship to leadership. The Critical Incident Technique was used to collect effective and ineffective incidents of instructor behaviour in military training from both instructors' and trainees' perspectives (total incidents = 1150, effective = 696, ineffective = 494), across the three UK Armed Services. Nine dimensions of instructor behaviour were developed with high inter- and intra-coder reliability. No differences were found between instructor and trainee generated incidents or among the three Armed Services. About 82% of the incidents could be recoded with high inter-coder reliability into categories of both transformational and transactional leadership. Strong relationships emerged between the following dimensions of both instructor behaviour and leadership respectively: *Showing and Demonstrating,* and *Appropriate Role Model*; *Using Instructional Strategies* and *Intellectual Stimulation*; *Feedback, Practice and Adapting,* and *Individual Consideration*; *Forms of Punishment and Control,* and *Contingent and Non-contingent Punishment.* These results inform not only the relationships between instructor behaviours and leadership but also the future training of military instructors, particularly the balance between a traditional authoritarian approach and an individualised supportive one.

Training or retraining is increasingly relevant with galloping technology and more competitive global markets. Despite the vast amount of research that has been carried out into the design of training (e.g. Goldstein, 1993; Merrill, 2002; Millward, 2005; Patrick, 1992), a substantive literature search revealed that few studies have identified and analysed important instructor behaviours and these are limited to the educational context (Blase & Blase, 2000; Harari & Zedeck, 1973; Lowenberg, 1979; Short, 1995). Given that good analysis is the cornerstone of training, this is somewhat paradoxical because in most training situations the delivery of effective instruction will depend not only on training design principles but also on the development of instructors' skills and competences, which in turn will depend upon their accurate identification. Therefore the first aim of the present study is to address this gap in the literature by developing key dimensions of instructor behaviour using the Critical Incident Technique (CIT; Flanagan, 1954) and, in

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order to achieve this, common methodological criticisms of the CIT (e.g. Lowenberg, 1979) will be overcome, making the process more reliable and valid. The second aim is to determine the relationship between instructor behaviours and leadership. The reason for this is that despite the wealth of leadership research (e.g. London, 2002; Yukl, 2002), and a number of studies devoted to leadership training both in the military (Csoka & Fiedler, 1972; Dvir, Eden, Avolio, & Shamir, 2002; Gibson, 2005; Hirai & Summers, 2005; Masi, 2000; Van Hoose, 1999) and civilian contexts (Barling, Weber, & Kelloway, 1996; Frese, Beimel, & Schoenborn, 2003; Kelloway, Barling, & Helleur, 2000), the relationship between instructor behaviour and leadership has been neglected.

There are however compelling reasons for predicting a close linkage between instructor behaviours and leadership. The terms 'instructor' and 'leader' are often used interchangeably (e.g. Blase & Blase, 2000; Bolton, 1999), and Ellinger and Bostrom (2002) noted that managers are frequently required to facilitate learning even though they do not believe this to be part of their management role. Conversely, instructors may perform not only their traditional instructional role but also act as leaders or line managers to trainees (Ting & Scisco, 2006) and even within their instructional role, instructors use some leadership behaviours (Hill, Gordon, & Kim, 2004). Also Bartone, Johnsen, Eid, Brun and Laberg (2002) emphasised that leadership has an important role in helping trainees develop a shared understanding of stressful experiences and in increasing group cohesion. This is particularly important in a military context, which is the focus of the present study. Leadership qualities are likely to be important in such training not only because it spans several months and is stressful but also because recruit perceptions of leadership have been found to influence attrition rates (Hardy, Shariff, Munnoch, & Allsopp, 2004). Hence, the present study will not only analyse qualitatively the nature of instructor behaviours and their relationship with leadership, but also derive practical recommendations for the practice of military training.

In the educational context, Lowenberg (1979) carried out two studies collecting 565 and 1,963 incidents from students of effective and ineffective instructor behaviour. However the primary goal of this study was to examine the consistency of classification of these incidents by different judges although, in the second study, seven effective and three ineffective dimensions of instructor behaviour were reported. Effective behaviours included 'reduction of vagueness', 'discipline methods', 'use of less conventional methods', 'relating to personal experience' whereas ineffective behaviours were 'poor preparation', 'inefficient use of time' and 'belittling the class'. In contrast, Blase and Blase's (2000) study collected data from 809 teachers in order to develop a model of effective instructional leadership consisting of two major dimensions, entitled 'talking with teachers to promote reflection' and 'promoting professional growth'. The former included behaviours such as: giving feedback, modelling, giving praise, listening, sharing their experiences, and using examples and demonstrations. The latter dimension of promoting professional growth involved strategies concerned with providing opportunities to learn new techniques, supporting collaboration, and developing a climate for encouraging redesign of courses and peer coaching. A few decades ago Collins and Stevens (1983) developed a more cognitive approach into what they termed a theory of inquiry teaching and identified strategies that teachers can adopt in order to diagnose weaknesses or mistakes in students' mental models during a tutorial dialogue. They identified ten strategies that were geared towards facilitating student evaluations and developing coherent mental models in different knowledge domains. However all of the above studies are limited to the traditional educational context and we need evidence not only of the generalisability of

these instructor behaviours across contexts but also the extent that they map on to leadership skills.

In order to examine leadership, it was necessary to select a leadership taxonomy, potentially relevant to military instruction. Various taxonomies have been proposed that have sought to identify effective leader behaviours (Testa & Ehrhart, 2005). Yukl (2002) identified 16 different taxonomies devised between 1953 and 1994, which ranged in generality from 2 to 15 dimensions. Early taxonomies were dominated by the leadership categories of consideration and initiating structure developed by Fleishman (1953) and Halpin and Winer (1957). More recently, the taxonomy proposed by Yukl (2002) built on this distinction between what he termed task-related (planning and organising, problem-solving, and informing) and people-related (motivating and inspiring, consulting, and supporting) leadership categories, and added an extra category concerning change behaviour. Yukl's (2002) taxonomy has received considerable support (Testa & Ehrhart, 2005) although his dimensions relate more to management than leadership *per se*. The leadership taxonomy adopted in the present study was based on the well-researched transformational and transactional approach to leadership from Podsakoff, Todor, Grover, and Huber (1984), Bass and Avolio (1994) and Podsakoff, MacKenzie, Moorman, and Fetter (1990).

There were various reasons for this choice. First, Hardy *et al.* (2004) have used this framework within the UK military and found that transformational leadership predicted negatively trainee attrition rate during induction training, the same context as the present study. Second, there is strong evidence of the effectiveness of transformational leadership in the military context (e.g. Bass, Avolio, Jung, & Berson, 2003; Kane & Tremble, 2000; Lowe, Kroek, & Sivasubramaniam, 1996). Kane and Tremble (2000) found that transformational leadership had an increasing effect with higher organizational levels on motivation and commitment of subordinates in the US army and a study by Bass *et al.* (2003), in the same context, found transformational leadership ratings predicted team performance in role play exercises. The meta-analysis by Lowe *et al.* (1996) demonstrated positive effects of transformational leadership across a range of contexts, including four published and four unpublished studies in military contexts. In the wider literature, the transformational leadership model has been found to be robust and positively related to various work outcomes such as job satisfaction, organizational commitment and performance (Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004). Barling *et al.* (1996) found that training bank managers in transformational leadership not only improved subordinates' commitment but also organizational financial outcomes. Third, there are *a priori* reasons to expect that elements of transformational leadership will be closely related to the behaviours of good instructors (Pounder, 2003) and that teaching will be enhanced by the dimensions of, for example, inspirational motivation, intellectual stimulation, setting a good example and providing individual consideration. Some tentative evidence for this is provided by Griffith (2004) who found that school principals demonstrated some of these components of transformational leadership and that their positive effects on staff turnover and student achievement were mediated by improved staff job satisfaction. In our leadership taxonomy it was decided to include the transactional category of contingent reward given evidence concerning its effectiveness and strong relationship with transformational leadership (Judge & Piccolo, 2004; Podsakoff *et al.*, 1984) and also to include leadership categories of contingent and non-contingent punishment (reviewed by Podsakoff *et al.*, 1984) given the propensity for strong discipline within military training.

Despite the apparent ubiquitous effects of transformational leadership, various calls have been made to integrate context into the study of leadership (House & Aditya, 1997; Lowe & Gardner, 2000) and it has been argued that leader effectiveness is largely context-specific (Antonakis, Schriesheim, Donovan, Gopalakrishna-Pillai, Pellegrini, & Rossomme, 2004; Bryman, Stephens, & Campo, 1996; Millward, 2005). Examples of studies on leadership context include: the GLOBE project on culturally endorsed theories of leadership (Den-Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999); Bryman *et al.*'s (1996) qualitative study of leader behaviours in the police force; and Testa and Ehrhart's (2005) study of leader interaction behaviours in the service industry. These studies emphasise the potential importance of not only the military context of the present study but also possible differences in context amongst the three Armed Services and the extent to which the leadership behaviours of military instructors are generalisable.

### Use of the Critical Incident Technique

The CIT was the methodology of choice in the present study for a number of reasons. First, CIT is essentially a qualitative method, enabling depth and breadth of insight into phenomena to be analysed and many recognise that it is a useful methodology where context is very important, for example, in the study of leadership (Bryman *et al.*, 1996) and coaching (Cox, 2003). Second, the technique has been successfully applied across many contexts, such as: nursing (e.g. Keatinge, 2002), leadership (Adams, Prince, Instone, & Rice, 1984), and managerial instruction (Ellinger & Bostrom, 1999; for a recent review see Butterfield, Borgen, Amundson, & Maglio, 2005). Third, CIT is easy to administer in group settings (Burns, Williams, & Maxham, 2000), provides a rich set of first-hand experiences (Gremler, 2004), obtains records of specific behaviours from those in the best position to make observations (Flanagan, 1954), and is culturally neutral with no prerequisite of what will be important (Gremler, 2004). Finally, CIT is an exploratory method that is effective in studying little known phenomena (DeRuyter, Kasper, & Wetzels, 1995). Considering the above merits and the goals of this study, CIT was identified as the most appropriate approach to developing key dimensions of instructor behaviour.

However, the CIT also faces several criticisms. First, whilst researchers select different ways to capture and categorise data with CIT, they rarely discuss their categorisation procedure or why they chose CIT above other methods (Keatinge, 2002). Second, like any content analysis process there are threats to reliability and validity (Kolbe & Burnett, 1991), especially as the classification of the incidents can be relatively subjective. Nonetheless, several studies provide support for CIT as a satisfactorily reliable and valid research method (Anderson & Nilsson, 1964; Ronan & Latham, 1974). Third, the majority of CIT studies use questionnaire-based recall methods to collect incidents rather than direct observation (e.g. Flanagan, 1954), which makes the incidents reliant on truthful reporting and prone to memory bias (Edvardsson & Roos, 2001). Further, Burns *et al.* (2000) advised that the narrative text in critical incidents should be interpreted cautiously due to more subtle biases. For example, they found that female participants disclosed more than males, more was disclosed to friends than strangers, and high involvement topics produced more disclosure than low involvement topics in a marketing context. Other limitations of the CIT typically include: low response rates (Adams *et al.*, 1984); more effective incidents reported than ineffective, small numbers of incidents averaging 250 incidents per study (Gremler, 2004), and the time consuming nature of categorisation, which can make the process costly and labour intensive.

A final criticism of CIT studies is that many have been limited to collecting incidents from only one group's perspective (Bitner, Booms, & Tetreault, 1990) and, in the leadership literature, researchers have relied heavily on assessments of effectiveness provided by subordinates or followers (Adams *et al.*, 1984; Millward, 2005; Van Fleet, 1974) despite the advantage of obtaining information from multiple perspectives. Furthermore, there are CIT studies that have found significant discrepancies between various types of observer (Ruch, 1953; Smit, 1952; Wagner, 1948). More recently, Ellinger, Ellinger, and Keller (2003) found that supervisors perceived that they engaged in coaching behaviours at higher levels than those perceived by their employees, and Testa and Ehrhart (2005) found significant discrepancies between employees' and managers' perceptions of leadership interaction behaviours in the service industry. Differences concerning negative interaction behaviours were greatest, with employees describing a number of negative behaviours not included in the managers' incidents (i.e. Insensitivity, Rudeness, and No Scheduling Consideration). Although the CIT has these inherent weaknesses, this study will attempt to overcome common methodological criticisms by: collecting incidents generated from both instructor and trainee perspectives; developing and making explicit the classification procedure; reporting both inter- and intra-coder reliability statistics; employing criteria that specify what constitutes a satisfactorily reported critical incident; and using a large sample of participants and, therefore, incidents.

In summary, the present study will bridge the gap in the literature by developing key dimensions of instructor behaviours outside of a traditional educational environment and by examining their relationship to leadership. As well as having a strong theoretical grounding, the study will also be of applied value. The Armed Services make a large investment in training due to the turnover in personnel and constant technological advances and, recently, in order to further improve the traditional training culture, some instructors have been made aware of some coaching models and leadership techniques. At present, there is no evidence of whether instructors would normally use such behaviours in their jobs, or how these behaviours are perceived in a traditionally authoritarian organization. Consequently, the present qualitative study will also contribute to the future training of military instructors.

## Method

### Sample

Questionnaires requesting behavioural incidents were administered to 1,272 participants, including both instructors ($N = 123$) and trainees ($N = 1,149$) from twelve geographical sites in the UK, representing the three Armed Services (Army = 661, Royal Navy = 284, and Royal Air Force = 327). Phase 1 training covered initial induction training of basic tasks (1–12 weeks approximately) and included 701 trainees and 52 instructors. Phase 2 training covered more specialised training of a variety of trades (13 weeks onwards) and included 448 trainees and 63 instructors. Eight instructors taught on both Phase 1 and Phase 2 courses. The mean age was 32.36 years for instructors and 20.40 years for trainees. The average military tenure for instructors was 12.71 years, and for trainees, 5 months. The mean length of time that instructors had been working in this role was 2.84 years. The sample was predominantly male (94%).

### Incident generation and collection

Critical incident questionnaires were developed by simplifying the general framework set out by Flanagan (1954) and Adams *et al.* (1984) with two equivalent versions for instructors and trainees. Within each version, the order of presentation of effective and ineffective examples was counterbalanced. In each session, participants were briefed by our researchers on the goal of the study (i.e. to improve the training of instructors) and were guaranteed that their responses would be anonymous. Questionnaires were administered by our researchers during each session to approximately five instructors and 40 trainees seated in separate rooms. Each participant was instructed to provide two examples of instructors' behaviours, one effective and one ineffective. For each example, participants had to answer three questions which helped them to be detailed and accurate (i.e. Describe what happened; Why was it effective/ineffective behaviour? How did things turn out?) (Adams *et al.*, 1984). To try to minimise the potential for social bias and to ensure anonymity, participants were instructed not to provide the names of instructors. Generally, it took participants fifteen minutes to complete and questionnaires were collected by researchers. Overall, 1,495 incidents were returned, representing a 59% response rate, exceeding other CIT studies (Gremler, 2004).

### Criteria of inclusion

Incidents were required to fulfil four criteria, adapted from the literature (e.g. Bitner *et al.*, 1990; Butterfield *et al.*, 2005), before being included in the study. These were:

(1)   The incident must involve an instructor's behaviour.
(2)   The incident must have a positive or negative impact on the trainee.
(3)   The incident must involve a specific episode.
(4)   The incident must be detailed enough to be visualised by the interviewer (i.e. must consist of antecedent information, a detailed description of the experience, and state the outcome of the incident). Or simply, all three questions on the critical incident questionnaire must be complete.

As a result, 345 incidents were dropped on the basis that 25 did not describe an instructor's behaviour, 32 were ambiguous (not positive or negative), 138 described several different behaviours (were non-specific), and 150 lacked detail or were incomplete. This left a total of 1,150 usable incidents in the final sample, which included 696 effective and 454 ineffective examples, involving 81 incidents from instructors and 1069 from trainees.

### Qualitative categorisation and assessment of reliability

A rigorous procedure was developed to categorise incidents of instructor behaviour and assess both inter- and intra-coder reliability and to avoid previous criticisms of CIT. The procedure involved the following four stages with an extra stage concerned with categorising incidents into the leadership taxonomy:

(1)   Three coders (MSc students in Occupational Psychology), familiar with CIT and the area of training, were provided with the full set of randomised incidents and asked 'to sort the incidents into meaningful categories to develop key dimensions of instructor behaviour'. After formulating tentative categories from a relatively

small sample of incidents, each coder was advised to make brief definitions of the categories and to sort the remaining incidents, whilst refining and developing new categories (Flanagan, 1954). No limit was specified as to the number or type of dimensions to be generated. This inductive classification took each coder approximately 8 hrs and coders were paid. Following categorisation the three coders partook in a focus group, in which they discussed their categories (in number, 8, 9, and 10) with the aim to resolve discrepancies between them and to devise coherent dimensions of instructor behaviours. The process was informed by Boyatzis' (1998) recommendations that a good thematic code should include: clear, concise labels; definitions; descriptions when the theme occurs; and examples of both positive and negative incidents, to reduce confusion (Boyatzis, 1998, p. 31).

(2) The second stage of the process involved the same three coders independently re-sorting 25% of incidents into the agreed taxonomy to see if modifications were necessary (Butterfield *et al.*, 2005). Only 25% of the incidents were re-classified due to the time-consuming nature of the process and the incidents were chosen at random and in proportion to the Service and the perspective that they represented. Only minor alterations to the initial taxonomy were made and the final taxonomy included eight behavioural categories plus one 'other' category (Table 1).

In content analytic research it is vital that consistency is demonstrated to validate the process of classification (Milne & Adler, 1999) and Gremler (2004) advocated that both measures of inter- and intra-coder reliability should be calculated. The Perreault and Leigh (1989) reliability index was selected to calculate inter-coder reliability between pairs of coders, as unlike the percentage of agreement, the index accounts for differences in reliabilities due to the number of categories, focuses the issue of reliability on the whole coding process, and is sensitive to coding weaknesses and has advantages over Cohen's kappa (Kolbe & Burnett, 1991). The three inter-coder reliability indices were 0.81, 0.82 and 0.83, which are acceptable (Gremler, 2004). Some other studies have accepted considerably lower coefficients of around 0.60 (e.g. Adams *et al.*, 1984).

(3) Next, three different independent coders (again MSc students in Occupational Psychology) were given 15% of incidents to sort twice from within the 25% sample used above, in order to calculate intra-coder reliability. Perreault and Leigh (1989) reliability indices for these three coders were 0.87, 0.86 and 0.79 indicating that coders could consistently sort the incidents into the same categories to a highly satisfactory degree.

(4) A further three coders (all Chartered Occupational Psychologists) independently classified *all* 1,150 incidents into the behavioural taxonomy, thus separating the process of category generation from that of category application (Patrick & James, 2004). This helped to externally validate the framework, which is a step that most CIT studies fail to include (e.g. Adams *et al.*, 1984). Perreault and Leigh (1989) inter-coder reliability indices across the 1,150 incidents for the three pairs of coders were all 0.91, which is highly satisfactory.

(5) The final stage involved the same three coders from stage 4 re-categorising all the incidents into nine leadership categories from Bass and Avolio (1994), Podsakoff, *et al.* (1984), and Podsakoff *et al.* (1990) plus one 'other' category. These were: *Inspirational Motivation*; *Appropriate Role Model*; *Fosters Acceptance of Goals*; *Individual Consideration*; *Contingent Rewards*; *High Performance Expectations*; *Intellectual Stimulation*; *Contingent Punishment*; and *Non-Contingent*

**Table 1.** Taxonomy of instructor behaviours

| Behavioural dimensions | Definitions | |
|---|---|---|
| | Effective behaviours | Ineffective behaviours |
| 1. Showing and demonstrating | Visual and practical demonstration, 'showing' a trainee how to do something (sometimes more than once), leading by example, being a role model, setting the standard. | No/poor demonstration, no practical involvement, hypocritical behaviours (i.e. not leading by example). |
| | *'Recruits had to crawl a large distance...the instructor did it as well to prove he does everything we do. . .it showed he leads by example'* | *'We weren't shown how to pack our burgans for first night. . .some people got punished for doing it wrong'* |
| 2. Using instructional strategies | For example: breaking up the task (bit-by-bit/step-by-step guidance), mnemonics, hints, tips, sayings, relating the task to the trainee experience. | Inappropriate use of instructional strategies. For example, going into too much detail. |
| | *'We had to learn how to effectively identify the shape of ground by looking at the contours on a map. Our instructors made us associate memorable words or phrases with the shape of ground'* | *'The drill movement was broken down into too much detail that we didn't need to know, so it just got tedious and boring. Most of us were confused'* |
| 3. Use of knowledge and experience | Providing detail, explaining, ability to answer recruit questions adequately, clear instruction/communication at an appropriate pace, prepared and/or organised materials. | Lack of knowledge, insufficient or too much detail, taught incorrect procedures, missing out important information, unable to answer recruit questions, not explaining, crossed or confused communication, inappropriate pace, not interactive (i.e. PowerPoint), unprepared and/or disorganised materials. |
| | *'The instructor. . .seemed thoroughly interested in the subject and described it in great detail. . .he showed knowledge of the subject. . . he seemed more human and like he wanted to succeed'* | *'In first aid he failed to teach us the correct methods to pass our exam'* |
| 4. Feedback, practice and adapting | Adapting to trainees needs, encouraging practice of tasks (the practice is not in own time—see category 8), explicitly showing the trainee where he/she went wrong, correcting behaviour on specific tasks to be mastered. | Not adapting to trainees needs (e.g. failing to show the trainee where he/she went wrong/ correct trainee behaviour). |
| | *'We were practicing drill. . .I was having trouble with a new movement. My section commander took me aside and showed me how to do it individually. . .he was focused on my weakness instead of the platoons'* | *'Feedback was only via results – didn't focus on the reasons for these. . . recruit failed the shoot'* |

**Table 1.** (*Continued*)

| Behavioural dimensions | Definitions | |
| --- | --- | --- |
| | Effective behaviours | Ineffective behaviours |
| 5. Forms of punishment or control | Focus on physical behaviours, i.e. aggressive, physical or misinformed behaviours. e.g. Positive punishment - telling off in a positive way – leads to positive trainee behaviour (e.g. motivation). *'When on the drill squad the SGT jailed a select bad few and sent them to the jail. . . it was effective because everyone else knew that if they did not work hard then they would end up down the jail. This enhanced the performance of the troop'* | Negative punishment: negative remarks, shouting, throwing, 'beasting', 'goosing', 'ragging' (teasing), verbal criticism, 'blanket punishment' (i.e. all trainees punished instead of just one) and threats. *'During drill lesson, if people weren't performing then they would "rag" the whole squad, not really creating good team spirit/morale. . .everyone became annoyed at each other and worked less as a team'* |
| 6. Encouraging behaviours | Focus on verbal behaviours, e.g. praise, humorous, enthusiastic, motivational or inspirational speeches, 'pushing' the trainees on, personal involvement (taking part in the task with trainees). *'On a tabb I was really struggling. . .The instructor said 'you're nearly there, just keep going'. . . he came up to me and said he was really impressed with me. . . it gave me that boost of morale and determination to know that he was watching and actively wanted me to pass and finish the exercise'* | Lack of encouraging behaviour. For example, no praise, lack of enthusiasm/no motivation. *'I finished my mile and a half run in 8 mins, 44 secs. . .but no praise at all was given. . .no comments or motivation to inspire me'* |
| 7. Helping (counselling, coaching and mentoring) | Personal interaction e.g. taking a trainee aside/talking to an individual on a one-to-one basis, listening, supporting, advising, interested in the recruits welfare, treating trainees equally, relaxed, calm and personable manner. *'I had a problem with home life so the instructor talked to me about it'* | Not listening, lack of trust, not helping (unhelpful), insufficient support, uninterested attitude, refusing to provide extra help, leaving early, dismissive, not organised, 'too busy', unavailable, apathetic, favouritism. *'On PT I hurt my arm during press ups and he forced me to continue . . .it could have been serious'* |
| 8. Taking on extra commitments | Instructing in own time, remedial tuition (e.g. tutoring trainees after work). *'We had a drill test in two days and we did not feel up to the standard. So after hours, they came in at night in their own time to practice. In the end the whole platoon passed'* | None. |
| 9. Other | *few (unreadable, missing data, not behavioural).* | |

*Punishment*. Initially the coders familiarised themselves with definitions of the leadership categories and discussed issues of overlap etc. Then 40 incidents were classified independently and disagreements were discussed before the remaining set of incidents was classified. Perreault and Leigh (1989) inter-coder reliability indices across the 1,150 incidents for the three coders were 0.89, 0.90, and 0.90, which are highly satisfactory.

## Results

In this section we report the distribution of incidents into the nine dimensions of instructor behaviour, including any differences between instructor and trainee perspectives, and among the three Armed Services; and the distribution of the same incidents into the ten categories of leadership behaviour.

### Dimensions of instructor behaviours

Nine dimensions of instructor behaviour were created, and the number and nature of incidents in each are reported in Tables 1 and 2. Only 2% of incidents could not be assigned to an instructor behaviour category. The greatest number of incidents (both effective and ineffective ones) fell into the *Feedback, Practice and Adapting* category (23%), followed by *Use of Knowledge and Experience* (22%), and *Forms of Punishment or Control* (15%). The category with the lowest number of incidents was *Taking on Extra Commitments (5%)*. The greatest number of effective incidents fell in the *Feedback, Practice and Adapting* category (31%), followed by *Using Instructional Strategies* (15%) and the greatest number of ineffective incidents was in lack of *Use of Knowledge and Experience* (42%), followed by *Forms of Punishment or Control* (31%). A chi square analysis confirmed that the distributions of effective versus ineffective incidents across the instructor behaviour categories differed significantly ($\chi^2 = 464.18$, $df = 8$, $p < .001$). It was not possible to analyse differences in the proportion of effective and ineffective incidents generated by instructors and trainees because of too low frequencies in the instructor generated categories for statistics such as chi square.

**Table 2.** Frequency of effective and ineffective incidents across dimensions of instructor behaviour

| Instructor behaviour dimensions | Effective incidents | | Ineffective incidents | | Effective and ineffective incidents | |
|---|---|---|---|---|---|---|
| | Total | % | Total | % | Total | % |
| Showing and demonstrating | 70 | 10 | 13 | 3 | 83 | 7 |
| Using instructional strategies | 104 | 15 | 3 | 1 | 107 | 9 |
| Use of knowledge | 63 | 9 | 188 | 41 | 251 | 22 |
| Feedback, practice and adapting | 220 | 32 | 49 | 11 | 269 | 23 |
| Forms of punishment (or control) | 31 | 4 | 140 | 31 | 171 | 15 |
| Encouraging behaviours | 79 | 11 | 7 | 2 | 86 | 7 |
| Helping (counselling, coaching and mentoring) | 66 | 9 | 44 | 10 | 110 | 10 |
| Taking on extra commitments | 55 | 8 | 0 | 0 | 55 | 5 |
| Other | 12 | 2 | 6 | 1 | 18 | 2 |
| Total | 700 | 100% | 450 | 100% | 1150 | 100% |

Anecdotally (and without statistical evidence), the proportions were very similar between trainee and instructor generated incidents for both effective and ineffective behaviours. The only possible exceptions were that instructors generated more than twice as many effective incidents concerning *Use of Knowledge and Experience (20% vs. 8%)* whilst trainees generated more than twice as many effective incidents concerning *Feedback, Practice and Adapting (33% vs. 16%)*.

There were no differences in the overall distribution of incidents across the instructor behaviour dimensions either between instructor and trainee generated incidents ($\chi^2 = 9.29$, $df=8$, $p > .05$) or amongst the Armed Services ($\chi^2 = 25.85$, $df = 16$, $p > .05$). These findings are important because, even though they do not indicate that these profiles are the same, they do suggest that these dimensions of instructor behaviour are robust and can be generalised within this context.

### Relationships between instructor behaviours and leadership

A total of 18% of incidents could not be classified in terms of leadership behaviours. In most of these instances, instructors were behaving as effective or ineffective instructors by explaining and communicating information that did not involve leadership. However, the fact that 82% of incidents were related to leadership is important in our analysis of the requirements of an instructor. The most frequent leadership category was *Individual Consideration (42%)*, followed by *Contingent Punishment* (15%) and *Appropriate Role Model* (10%) (Table 3). The leadership category with the most effective incidents was *Individual Consideration (57%)*, followed by *Appropriate Role Model* (12%) although both of these categories were also related to ineffective incidents in which there were instances of instructors' lack of both *Individual Consideration (*18%) and *Appropriate Role Model* (8%). However, *Contingent Punishment* (32%) was the most frequently cited ineffective leadership behaviour. A chi square analysis confirmed that the frequency of different leadership behaviours differed between effective and ineffective incidents ($\chi^2 = 416.30$, $df=9$, $p < .001$).

**Table 3.** Frequency of effective and ineffective incidents across leadership dimensions of instructor behaviour

| Instructor leadership dimensions | Effective incidents | | Ineffective incidents | | Effective and ineffective incidents | |
|---|---|---|---|---|---|---|
| | Total | % | Total | % | Total | % |
| Inspirational motivation | 10 | 2 | 1 | 0 | 11 | 1 |
| Appropriate role model | 84 | 12 | 36 | 8 | 120 | 10 |
| Fosters acceptance of goals | 14 | 2 | 2 | 0 | 16 | 1 |
| Individual consideration | 399 | 57 | 79 | 18 | 478 | 42 |
| Contingent rewards | 17 | 2 | 4 | 1 | 21 | 2 |
| High performance expectations | 20 | 3 | 2 | 0 | 22 | 2 |
| Intellectual stimulation | 57 | 8 | 6 | 1 | 63 | 5 |
| Contingent punishment | 28 | 4 | 141 | 32 | 169 | 15 |
| Non-contingent punishment | 0 | 0 | 39 | 9 | 39 | 4 |
| Other | 71 | 10 | 140 | 31 | 211 | 18 |
| Total | 700 | 100% | 450 | 100% | 1150 | 100% |

It is also informative to note the low use of some leadership categories. For example, *Inspirational Motivation* was only attributed to 1% of effective incidents, and *Contingent Rewards* to 2% of these, the latter contrasting with the use of *Contingent Punishment* that was responsible for the largest proportion of ineffective instructor behaviours (32%), and only contained 4% of effective behaviours. Also, 9% of ineffective incidents were related to *Non-contingent Punishment*, which reflected disapproval or punishment by instructors not perceived by trainees to be linked to their incorrect or poor behaviour. There were few incidents that could be related to *Fosters Acceptance of Goals* (1% in total). Also, it is perhaps surprising that only 8% of effective incidents were associated with *Intellectual Stimulation* given that instructors were engaged in teaching and used various instructional strategies, such as helping trainees to remember drill sequences by using mnemonics or breaking tasks into small or simplified steps. For example:

> 'We had to learn how to effectively identify the shape of ground by looking at the contours on a map. Our instructors made us associate memorable words or phrases with the shape of the ground.'

An examination was carried out of how each instructor behaviour category breaks down in terms of leadership categories and vice versa. In other words, is it possible to characterise certain instructor behaviours as predominantly requiring certain leadership skills? Not surprisingly 80% of instructors' behaviours concerning *Showing and Demonstrating* involved the leadership category of being an *Appropriate Role Model*, for example:

> 'Personally leading us on patrols, formations and manoeuvres when teaching us . . .'

Nearly half of incidents involving *Using Instructional Strategies* fell into the *Intellectual Stimulation* category, for example:

> 'An instructor taught the lesson, interjecting it with gory (and some funny) anecdotes. This made the lesson more interesting.'

An even stronger relationship existed between the leadership dimension of *Individual Consideration,* in which 42% (478) of incidents were classified, and instructor behaviours of *Feedback, Practice and Adapting, Helping*, and *Taking on Extra Commitments* contributed 237, 83 and 53 incidents, respectively. Not surprisingly the majority of these reflected effective behaviours, for example:

> 'My instructor took time to help me learn new revision techniques after I had failed an exam twice.'

However, some incidents illustrated a lack of *Individual Consideration:*

> 'I was struggling with ironing my kit when I first joined so I asked an instructor and they refused to help me.'

Instructor behaviours of *Forms of Punishment and Control* were distributed between the leadership categories of *Contingent Punishment* (73%) and *Non-contingent Punishment* (16%).

## Discussion

This study sheds light on the nature and generalisability of instructor behaviours and their relationship to leadership. Nine key dimensions of instructor behaviour were developed using the CIT through a rigorous procedure involving satisfactory inter- and intra-coder reliability and these were related to transformational and transactional leadership dimensions, again using a highly reliable coding process. The following

discussion will consider first the generalisability and nature of the instructional dimensions, followed by their relationship to leadership.

It is of interest that the instructor behaviour categories generalised across the three Armed Services and did not differ significantly between instructor and trainee perspectives. Also several categories can be readily related to Blase and Blase's (2000) model of instructor behaviour. Five categories (i.e. *Showing and Demonstrating*; *Encouraging Behaviours*; *Using Instructional Strategies*; *Feedback, Practice and Adapting*; and *Helping)* are similar to the instructor dimensions identified by Blase and Blase, albeit in a more educational context. Similarities included: making suggestions, giving feedback, modelling, and praise (four strategies from a dimension they labelled 'promoting reflection' in those to be instructed); and, listening, sharing experiences, and using examples and demonstrations (associated with 'making suggestions'). Also the category of *Forms of Punishment or Control* contained many ineffective incidents that related to Lowenberg's '(1979) dimension of 'belittling the class'.

In the present study instructor categories ranged from those that are traditionally associated with an instructional role, such as *Using Instructional Strategies* and *Showing and Demonstrating* to those concerned with more individualised help, such as *Helping (Counselling, Coaching and Mentoring)* and *Encouraging Behaviours*, characteristic of more recent perspectives from the coaching literature (e.g. Gilbert & Trudel, 2000; Palmer & Whybrow, 2005; Parsloe, 1995; Whitmore, 1992). This literature emphasises techniques such as setting goals, providing feedback, and diagnosing a coachee's problem. The *Helping* category includes talking to a trainee on a one-to-one basis, personal interest, and support (e.g. Marsh, 1992). *Feedback* has also been consistently identified as a core construct of coaching (e.g. Ellinger & Bostrom, 1999; Marsh, 1992) besides having been identified as one of the most powerful variables of instructional theory (e.g. Patrick, 2000). Further, the *Feedback, Practice and Adapting*, *Using Instructional Strategies*, and *Helping* dimensions share similarities with four of the facilitating categories found in Ellinger and Bostrom's (1999) managerial coaching study, which included: 'Providing feedback to employees', 'Broadening employees' perspectives - by getting them to see things differently', 'Using analogies, scenarios, and examples' and 'Working it out together'. The fact that only four of the 13 behaviours are similar to the key dimensions is not surprising, as Ellinger and Bostrom's framework is oriented towards manager rather than instructor behaviours. Two dimensions that are not generally linked to instruction are *Forms of Punishment or Control*, and *Taking on Extra Commitments* – the former representing authoritarian or transactional leadership behaviours (Bass, 1996), and the latter, Organizational Citizenship Behaviours (Organ, 1997).

Some categories of instructor behaviour reflect a traditional authoritarian instructional environment as opposed to a more individualised coaching-oriented one. It appears that the scales are roughly equally balanced with respect to this distinction. On the one hand, there is evidence of individualised support, help and encouragement whilst, on the other, punishment is still prevalent, even though it was considered to be largely ineffective, as was the lack of individualised help and instruction. These issues are often interrelated and this is neatly illustrated by the frustration of the following trainee who wanted feedback concerning how to improve his behaviour rather than punishment:

> 'Myself and another trainee made a mistake during training which broke a small but expensive tool . . . instead of explaining why it happened and how to stop it happening again in the future, we were threatened with disciplinary action and left just as confused as when it first occurred . . . It didn't help me understand why I made the mistake so it may happen again in the future.'

Also it is surprising that lack of *Knowledge and Experience* encompasses most ineffective incidents of instructor behaviour, given that, on average, instructors had occupied this role for just under three years. This dimension partly relates to the task-relevant competence of instructors that Justis, Kedia, and Stephens (1978) found had a major effect, particularly when instructors wielded high power as in the present study. Examples included situations in which instructors failed to communicate effectively during instruction or taught incorrect procedures, as in the following example from Table 1:

> 'In first aid he failed to teach us the correct methods to pass our exam.'

It is important to note that the number of incidents in a given category may not always adequately reflect its importance and there are many individual (e.g. instructor personality, previous training) and situational factors (e.g. organizational culture and climate) affecting instructor behaviour. Nevertheless, the quantity and richness of the incidents provide fertile evidence of how future training support for instructors can be developed. Such training should emphasise that instructors should tailor their behaviours to align with the majority of trainees' preferences, whilst retaining the ability to be flexible and adapt to all trainees' needs. This is important as, although *Forms of Punishment* category was considered to be stereotypically ineffective, there were a few trainees (and incidents) in which it was considered effective, and this also applied to *Using Instructional Strategies* whose effectiveness depended on the ability and preference of the trainee.

The notion of instructors as leaders 'adapting' to trainee requirements is supported by current trends in leadership theory (e.g. Millward, 2005). In fact this study corroborates the view of Ting and Scisco (2006) that there are strong relationships between instruction and leadership because 82% of incidents were classifiable in the transformational and transactional leadership dimensions. The distribution of incidents was more uneven across the leadership rather than the instructor behaviour categories, resulting in a dichotomy in which some transformational and transactional dimensions rarely occurred in contrast to others in which there was a strong relationship to one or more instructional behaviour dimensions. Thus transformational dimensions of *Inspirational Motivation, Fosters Acceptance of Goals, and High Performance Expectations* each contained less than 2% of all the incidents. It is perhaps surprising that *High Performance Expectations* contained the fewest incidents and that these were mostly trainee generated given that military ethos is to insist on only the best performance. Possibly instructors avoided *High Performance Expectation* behaviours either because they were uncertain how trainees would perceive them or felt they were inappropriate in induction training. Provision of feedback to instructors from trainee generated incidents could help to raise their awareness of trainees' perceptions (Atwater, Roush, & Fischthal, 1995). It is also unexpected that the transactional category of *Contingent Rewards* only occurred in 2% of incidents, especially given the preliminary nature of the training and the evidence that such behaviour has a strong positive effect on various performance outcomes (Judge & Piccolo, 2004; Podsakoff *et al.*, 1984). This provides further evidence concerning future training development for military instructors.

Four strong mappings existed between dimensions in the instructor and leadership taxonomies. First, *Showing and Demonstrating,* an important instructional technique (Sheffield, 1961; Taylor, Russ-Eft, & Chan, 2005) was closely related to Podsakoff *et al.*'s (1990) *Appropriate Role Model* category, including behaviours such as 'leading by example', and 'being a role model'. Second, *Intellectual Stimulation* leadership behaviour was almost totally accounted for by *Using Instructional Strategies* from the

instructor behaviour taxonomy. Third, the most frequent leadership category of *Individual Consideration* was largely attributable to instructor behaviours of *Feedback, Practice and Adapting* that involved helping trainees master specific tasks such as rifle shooting, drill movements, map reading etc. Finally, instructor behaviours of *Forms of Punishment and Control* mostly corresponded to the leadership category of *Contingent Punishment,* although some incidents aligned with *Non-contingent* leadership. Therefore this study provides both qualitative and quantitative evidence of a strong relationship between instructor behaviours and leadership in a military context.

The present study has various limitations. First, behavioural incidents were collected using questionnaires, rather than direct observations as originally recommended by Flanagan (1954). Therefore, it is not possible to determine whether the incidents are accurate examples of observed behaviour, or based on stereotypes, fabrication, and/or faulty recall (e.g. Gilbert & Trudel, 2000). Setting criteria that the incidents had to fulfil, and reassuring the participants that the data would be confidential, may have helped to filter out social and memory biases, yet without direct observations it is impossible to be sure that incident reports were accurate. Nonetheless, using direct observations would have been more time-consuming and difficult to quantify (Bownas & Bernardin, 1988). Further limitations are that there was a disproportionate number of males to females in the sample although this reflected the fact that the majority of military trainees were male. Participants were only required to complete one example of effective and one of ineffective instructor behaviour, when they may have had more than one experience of each to draw on. Also the magnitude of the effectiveness (or ineffectiveness) of the incidents was not gauged and, thus, the frequency of incidents in a given category was taken to indicate its importance, when this might not be the case. Finally, the nature of the instructor behaviours and their relationship with certain forms of leadership may be contingent on the military context of the present study. Nevertheless some generalisability between this and other contexts has been noted above in the nature of both instructor and associated leadership behaviours.

In conclusion, this qualitative study has analysed with high inter- and intra-coder reliability an extremely large number of incidents in order to not only identify nine dimensions of instructor behaviour but also to provide empirical support for their relationship to leadership. For practitioners and researchers alike, this relationship is of importance, not only indicating conceptual and empirical links between them but also that training of instructors needs to address both areas. Also, by emphasising the importance of the supportive dimensions of transformational and transactional leadership to instruction, it is possible to shift the climate of the military training environment from a more traditional authoritarian one, utilising various types of disapproval and punishment to a more constructive and individualised one that will be of benefit to trainees.

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