

Ethnic and cultural focus in airport driver training

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Abstract

A series of linked relationships is advanced which together suggest changes should be made to training programs for airside drivers at major airports in the United States, Australia and the United Kingdom. Overall, the links suggest a relationship between the number of airside incidents such as collisions at airports, the ethnic diversity evident among airside drivers, and the training programs for those drivers. The article advances literature from religious, sporting and ethnic communications research which strongly suggests that addressing an individual or group's ethnic characteristics, especially kinship relationships, increases the effectiveness of business-oriented communications such as education and marketing. But data from interviews among developers and managers of airside driver training programs suggests that no attempt has been made previously to address airside drivers' ethnic background. Reasons presented for this include a widespread lack of recognition of ethnic diversity as an issue in airside driver training, and a consequent lack of government regulation to incorporate such recognition in training programs. Other reasons include cost factors in training development, and the fragmentation of the airside business space between hundreds, if not thousands, of independent contractors. This article suggests that the inclusion of ethnically-oriented strategies in airside driver training programs will act to improve training outcomes and result in fewer airside incidents over time. Benefits available to the transport industry include reductions in liability costs, improvements in passenger and asset safety, and reduction in network blockages.

Introduction

The world's airports represent a particularly fertile site for training research. Millions of passenger trips and aircraft operations are completed safely every year (Federal Aviation Administration, 2002a) and traveller numbers are increasing quickly. In the UK alone, Department for Transport estimates (DFT 2004) predict annual airline passenger numbers at airports will rise from 160 million in 1998 to 276 million in 2010, 333 million in 2015 and 401 million in 2020. This surge brings commerce, tourists ... and workers, and the phenomenon of transnational workers represents as much a challenge for labour educators (Miller 2001) as it does for governments (Ogbonna 1998). It challenges economic performance at an important interface between corporations and governments and as such is a locus for training activity. The challenge is perhaps most evident at airports. Just as travellers of many ethnic and cultural backgrounds are served by the world's airports, so are many equally diverse workers serving them, in administration, hospitality, traffic and manual labour departments. Each of these individuals needs training to carry out his or her role safely and efficiently, and the efficacy of that training is an indicator of the efficacy of the entire airport system.

Airside drivers include every individual who controls a vehicle in what is called the 'airport movement area': pilots, and the thousands of workers who steer the tow trucks, baggage trolleys, catering vans and refuelers. Since the mid-1920s commercial aviation has achieved a remarkable safety record. However, the growth of the global air traffic network and the pressure for increased operational rates to reduce system delays, ongoing pressures to reduce fuel consumption as a way of capping ticket prices, the complexity of airport operations and the requirement for precise timing, all conspire to make the airport movement area surfaces particularly unforgiving of errors by pilots, air traffic controllers, and vehicle drivers (FAA, 2002b). Of all these roles, training of ground vehicle operators has been identified (Rankin 1994) as the most effective initiative to reduce runway incursions, defined by the International Civil Aviation Organizations (ICAO) as 'any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft' (FAA 2008 p.1). Runway incursions are divided into three classification types: pilot deviations, operational deviations, and vehicle deviations. In the United States, pilot deviations account for approximately 57% of the total runway incursions, operational deviations account for 23%, and vehicle deviations account for 20% (FAA, 2004).

After type, runway incursions are further stratified into four distinct categories by increasing severity, ranging from category D, least severe, to category A, most severe. Although vehicle deviations represent a smaller portion of the total US runway incursions, the potential risk in the terms of loss of life remains

significant. The National Plan of Integrated Airport Systems (NPIAS) contains a listing of more than 3334 publicly funded airports in the US (Wells 2004) but among those, only 490 have operating control towers, and only towered airports report runway incursions (FAA, 2004). Among the towered airports, operations involve predominantly commercial aircraft, accounting for the majority (87%) of category A and category B runway incursions. Vehicle / pedestrian deviations represented 18% of incursions, which 'is in proportion to their national representation (20 percent)' (FAA 2004, p. 36). The most serious runway incursion to date (a pilot deviation) occurred in Tenerife, Canary Island on March 27, 1977, killing 583 people, and ranking as the worst disaster in aviation history (Clarke, 2002). The reduction of just one runway incursion could reduce the potential of a catastrophic event.

The US system continues to experience approximately one runway incursion per week (FAA 2004). The 35 busiest US towered airports¹ have twice the average number of reported runway incursions than the rest of the US towered airports (FAA, 2004), as many as one a day across the country (Serber, 2008, p.9). Internationally, the rates were similar. Thus this is an appropriate time to propose one possible solution to the issue of reducing runway incursions by addressing airside driver training programs.

Method

When training-needs analyses have been conducted among multinational populations of workers, operational issues such as inter-cultural problems, language, and differences in systems of representation rank highly (Miller 2001, p.43). Cultural awareness has been identified as a specific individual and collective training need, both in terms of knowledge to be acquired and as an interpersonal skill to be developed (Miller 2001, p.44). While a generic set of problems and training needs can exist across multinational populations of workers, the complexities of such an environment mitigate attempts to establish a core curriculum: 'a multifaceted approach is likely to be necessary' (Miller 2001, p.49). Thus we hypothesise that Airside driver training programs at major airports in the US, Australia and the UK do not address inter-cultural issues among the target population, especially kinship and the restraints it imposes on community members, but to do so would most likely enhance training outcomes.

This study proceeds using a review of the available literature and small case studies completed by interviewing key stakeholders (by email and telephone) and analyzing their responses. The use of case study methodology is supported by Berg (2001, p.225) who notes that 'case study methods involve systematically gathering enough information about a particular person, social setting, event or group to permit the researcher to effectively understand how it operates or functions' and that 'the scientific benefit of the case study method lies in its ability to open the way for discoveries' (2001, p.231). They may focus on

'an individual, a group or an entire community and may utilise a number of data technologies such as life histories, documents, oral histories, in-depth interviews, and participant observation' (Berg 2001, p.225).

Literature Review

Technologies and training

Despite its importance, airport ground-vehicle-operator training is conspicuously lowly represented in scholarly literature even though many thousands of vehicle operators traverse airport movement areas daily. As one way to address the situation in the United States – one which has global ramifications – the Federal Aviation Administration (FAA) has developed several training programs for pilots and air traffic controllers to make each group more aware of runway incursion problems (Clarke 2002). In turn, the American Association of Airport Executives (AAAE) has developed and deployed an interactive computer-based employee training system that provides training customized to airports (AAAE website 2007). The training system is known as *IET (Interactive Employee Training)* and thus the literature section opens with a review of computers and training technologies in the workplace.

The effects of technologies (usually computer systems) installed within the training environment can include personal anxiety, alienation from other people, information-poor minorities, feelings of impotence, complexity that bewilders all types of users, organisational fragility as system failures halt many users, invasions of privacy, unemployment and displacement, lack of professional responsibility, and a deteriorating image of people, as machines are seen to be more important than the people within the organisation (Booth 1989, p.182).

There is a strong positive effect, however (Booth 1989, p.183) and it is one of the most frequent developments that occur when a new system is introduced: 'local experts' emerge. This phenomenon describes 'users who tend to find out more about the ... system, or a particular application, than their colleagues, and consequently are used by their colleagues as a source of reference' (Booth 1989, p.183). They become other users' first port of call for help, ahead of manuals and the information technology professionals (Booth 1989, p.183). Some of the characteristics of the 'local expert' are: He or she is of a similar or lower organisational rank, has the most appropriate technical expertise at the time, is the most approachable, is the most likely to accept the return of a favour, shares the same office, is available or 'interruptible', and has a similar background and shared experiences (Booth 1989, pp.183-184): 'the local expert is on the same wavelength as the user, and experiences the same problems'.

The 'soothing' presence of 'local experts' can be viewed as 'supervisory support'. Work by Van der Klink et al (2001, p.60) suggests that while supervisory support

on its own produces insignificant effects towards enhancing the transfer of training, when coupled with support for the supervisor, including training-enhancing behaviour such as coaching and motivation, transfer is likely to be enhanced.

Ethnicity and cultural factors

As part of a separate but relevant study, one of the present authors investigated the population of airside drivers in South Florida and demonstrated a relationship between airside drivers' ethnic and cultural diversity and airport movement area training outcomes. As a result, this second section of the literature examines relationships between ethnicity and how trainees learn. The conclusions reached in the separate study are raised in the discussion section of this article.

Race – ethnic divergence from the normative community in any society – is a part of everyday life around the world and the 'race question' continues to be an issue for many societies, including the US. But skin color is only one expression of race: ethnic diversity includes a long list of human variables such as language, customs at home and in business, dress, eating habits, and marriage, religious and sexual mores. A particular expression of ethnic diversity expressed in the literature – but not operationalised in many official spheres – is the ways in which different ethnic groups learn.

Education literature suggests that 'the development of cognitive skills is closely related to the experiences and demands of the culture in which one grows up' (Salomon 1976, p. 138). The inverse is true too, so that 'particular cultural experiences and demands can also be related to the mastery of particular skills and competencies' (Salomon 1976, p. 138) indicating that learning can be both understood and enacted by understanding students' cultural backgrounds. While it has been shown that similarities among ethno-linguistic groups are greater than differences (Lambert 1973, p.1) the same research acknowledges that:

linguistic differences among ethnic groups are real ... (and that) the linguistic distinctiveness of a particular ethnic group is a basic component of its members' personal identity; thus, ethnicity and language become associated in the thinking of those inside and outside the group. (Lambert 1973, p.1)

This challenges the Skinnerian behaviorist concept of repetition and reward – often reflected in rote learning – and suggests instead that 'the learner must want to identify with members of the other linguistic-cultural group and be willing to take on very subtle aspects of their behavior such as their language or even their style of speech' (Lambert 1963, p. 115).

Some groups and communities tend to operate more like a family than a market – more *gemeinschaft* than *gesellschaft* (Tönnies 1957) and this often denotes the anthropological notion of kinship at work. In such communities, the process of communication is ‘essentially, a social, psychological, possibly also a philosophical, term’ and identifies ‘the individual’s place in relation to his or her capacity to connect with others’ (Silverstone 2005, p.2). The more access an individual has to social networks – i.e. a kin network – the more social capital they are seen to have (Short, 1996b, p.3; Crow, 2004, p.14-15; Austin-Broos, 2006). Social capital (Bourdieu 1972) is the extent and strength of one’s social network and the extent to which the individual may utilize it to attain personal and material satisfaction. It is now a policy aim of many government and non-government organizations to improve the social, health and economic circumstances of individual citizens by directly helping them develop their social networks (e.g. Cohen, 1996; Klein, 2004; Perri 6, 2004; Alexander, 2005). Social isolation, or an absence of social capital – i.e. an inability to participate adequately within a social network – renders it difficult for an individual to ‘get by and impossible to get ahead’ (Short, 1996a; Perri 6, 2004 p. 180).

Communications as a facilitator of learning

Modern communications (especially digital) have the capacity to work in two-way channels and this is true especially in the education and training environment. Recognition and use of this *two-way symmetric* model, advanced by Grunig and Hunt in 1984 (Johnston and Zawawi (2004, p. 53) leads to more effective communications and thus better learning. In Grunig and Hunt’s model², ‘programs that make sure the targeted publics benefit as much as the ... originators, are the most effective’ (Johnston and Zawawi 2004, p. 55). This challenges a more traditional *one-way, asymmetrical* or even *one-way symmetrical* model which does not invite interaction between the communicating parties. Support for this is found in the long-standing educational theory of *praxis* (Freire 1972, p. 28), proposed as ‘reflection and action upon the world in order to transform it’ and described by Huesca (2003, p. 211) as ‘self-reflexive, theoretically guided practice’. It is also supported by *constructive alignment* (Biggs 1999, p. 25-31) described as ‘a design for teaching most calculated to encourage deep engagement’. The central element of the *praxis* is that the teacher must acquire a critical awareness of the situation of the student by becoming interdependent with the student. Freire concludes (1972, p. 28) that ‘the requirement is seen not in terms of explaining to, but rather entering into a dialogue with ... people about their actions’ and is ‘animated by authentic humanist (not humanitarian) generosity’. Under the *praxis* orientation, practitioners attempt to close the distance between teacher and student, development agent and client, researcher and researched, to enter into a co-learning relationship guided by action and reflection (Huesca 2003). Group meetings and group discussions are also beneficial, as are peer communication in groups, individual consultations, and small group media such as slide shows and video productions (Cohen 1996).

Until recently, many communicators such as journalists and corporate trainers (among others) seeking to address communities with enhanced kinship characteristics – such as rural and remote towns, special interest groups (such as environmental or religious groups), and especially metropolitan suburbs with high percentages of immigrants from single or various origins – have generally approached populations on the basis that they have universal characteristics (Masterton 1998) and are ‘culture-free: *mutatis mutandis*’ (Galtung & Ruge 1965, p.67-68). However, many communicators in such situations have subsequently reported that this approach is deficient, and that they needed to reach for something more, such as *gut instinct*, or more recently and formally, public and stakeholder consultative techniques, to establish a more viable hierarchy of news and interest values for the selected community.

Religious newspapers and broadcast outlets target those groups with information and styles unlike secular media; sporting media recognize team loyalties; internationally, a different hierarchy of news values – a *different model* (Mohamed Al Mashikhi, personal communication, 2006) – operates in the Arab world. Indeed, this is clearly supported by the announcement page of the Al Arabiya news service, which notes: ‘Al Arabiya ... is an Arabic station, from the Arabs to the Arabs, delivering content that is relevant to the Arabs’ (Allied Media 2007, p.7). Lin and Song (2006) identify a tendency among ethnic Asian and Latino newspapers in Los Angeles to include a large amount of news related to the audience’s home country ‘in contrast to a relatively small number of geo-ethnic stories that are essential to community building’ (p. 362).

Hispanic media in focus

The importance of ethnically and culturally focused media delivery is clearly shown by the emergence of the Hispanic media model in the US. As recently as June 2008 (Consoli 2008) a media advertising deal worth up to \$US80 million was signed between cross-platform Hispanic publishers Univision and Zubi Advertising of Miami, including radio, national and local television, Internet and mobile delivery. Four months earlier, ratings company Nielsen formed a national Hispanic/Latina Advisory Council to ‘help the research company recruit, measure and accurately report Hispanic TV households (Bachman 2008, n.p.). The ‘new Hispanic (media) generation’ has been identified as bilingual individuals ‘with a rich Hispanic culture but who grew up in US cities’ but are ‘vastly under-targeted’ (Case 2003, n.p.). Language is not the whole story. Role models – the media equivalent of ‘local experts’ – became important in *Latina* magazine in 1996 (Case 2003) because as publisher Christy Haubegger noted (Case 2003, n.p.): ‘we’re finding ourselves invisible and we’re hungry for something that reflects [our presence]’.

Marketing research (Peñaloza & Gilly 1999, p.84) also supports multicultural learning and adaption using ethnographic methods in the US. The US Bureau of Labor Statistics *American Time Use Survey* suggests that Hispanics and Latino

individuals spend more time each day shopping ('purchasing goods and services') than any of its other measured ethnic groups (Burleson 2006, n.p.). In-car radio listening is higher among Hispanic males; Hispanics spend more time commuting than other groups – more car use, but in pools rather than individually, and on public transport; Hispanics are community-oriented and families are likely to have three or more children (Burleson 2006, n.p.). Car advertising has been strategically targeting Hispanic cultural values. Toyota's full-size Tundra pick-up sells well among Hispanic males in the US southwest 'who are Mexican immigrants characterised as *Jefes*, local heroes who are considered pillars of strength in their communities' (Mediaweek.com 2008).

Airside training in general

Until the 21st century, airside driver training could be described as the preparation of a set of traffic rules by airport managements, rules which were then promulgated to all employees or contractors providing transport services in the airport movement area ('airside'). Eventually this was regulated to the extent that drivers were trained in the observance of these rules and licenses were issued for airside work. Anecdotally, vehicle operator training in the past has been described (Woon 2008) as giving drivers a book of rules, saying 'learn these' and then administering an exam.

On June 21, 2002, the FAA issued Advisory Circular (AC) 150/5210-20 to provide guidance to airport operators in developing such training programs for vehicle ground operations. This was the first advisory circular providing US airport operators with a list of training topics to include in a ground vehicle operator training curriculum (FAA, 2002a). The FAA also instituted Standardized Taxi Routes (STRs) (FAA Order 7110.116) to assist pilots and air traffic controllers with surface movement of aircraft. Finally, air traffic controllers were required to maintain a high level of runway incursion awareness through a monthly computer-based recurrent training program.

The goals of the FAA *Runway Safety Blueprint* (2002a) include: (a) Develop and distribute runway safety education and training materials to controllers, pilots and all other airport users; (b) Increase surface safety awareness throughout the aviation community; (c) Assess and modify procedures to enhance runway safety; (d) Improve runway safety data collection, analysis, and dissemination; (e) Identify and implement enhancements to improve surface communications; (f) Increase situational awareness on the airport surface; (g) Support and deploy new technologies that reduce the potential for collision; and (h) Implement site-specific runway safety solutions in coordination with local aviation communities (p. 4).

Working towards these goals, the three-way matrix of study, education, and strict enforcement are among the tools currently used by airport operators to address the problem of vehicle deviations. This system of addressing vehicle

deviations is sometimes called *study, educates, enforces* (SEE) and has been successful in many areas, not just aviation (Clarke, 2002).

Findings

This section of the article investigates existing airside driver training programs in the US, Australia and the UK. Interviews were conducted with training developers, delivery organisations and airport managers. Data from the interviews provide a picture of the training programs and what they include.

The United States

The American Association of Airport Executives (AAAE) has developed and deployed an interactive computer-based employee training system that provides training customized to airports (AAAE website 2007). The training system is known as *IET (Interactive Employee Training)* and uses digital video to capture images from client airports so that educational designers can use these images as customised training backgrounds, to accompany text customised for the physical location of each airport cohort. In some cases, the training material is translated into Spanish. To May 2008, the AAAE says it has delivered 475 *IET* workstations to 82 airports, administering courses to 250,000 individual employees at more than 80 airports (Broderick 2008):

Courses developed cover key airport operations elements, including Security Identification Display Area (SIDA) procedures, airfield driver training, Part 139 regulations, basic airport security awareness, runway incursion prevention, electric cart driving, customer service, and more. Courses are available in both English and Spanish.

The authors sought information from *IET* co-developer Will James on whether during development and implementation of *IET*: (a) there had been any direct consultation with the various diverse ethnic groups which show up in populations of airside drivers at major US airports during development and implementation of *IET*; (b) any literature or previous research had been encountered which suggested that consultation and ethnic *biofeedback* had been effective and might be worth including in the *IET*; (c) *IET* explicitly takes into consideration feedback from potential trainees, current trainees and former trainees regarding how they experienced the program and how effective they found it; (d) any feedback received mentioned anything about cultural effectiveness or difficulties which trainees experienced while taking the *IET* program; (e) anything during roll-out and bedding down of *IET*, including feedback and testimonials from airport clients, suggested the program included enough customization for ethnic diversity in the program, or could more make the program more effective and thus improve clients' return on investment; and (f) if there are any similar customizable programs for comparison.

Will James (personal communication September 20, 2007) replied that AAAE had not taken into consideration any ethnic or cultural demographic issues in development of the *IET* training. He noted that the AAAE ‘just saw the need, developed the product, and put it on the market.’ Existing feedback since then had not led AAAE to focus on any of the issues raised in the above questions.

Australia

A computer-based interactive airside training program, unrelated to the AAAE *IET* course, was developed in 2000 by the Learningplus organisation (<http://www.learningplus.com.au/>) for Sydney Airport, the busier of Australia’s two largest airports, to be made available to their target audience of around 7000 airside drivers across about 250 leasing companies. A version was subsequently customised for a number of regional airports including Newcastle and Mackay (Woon personal communication 2008). Learningplus company director Peter Woon notes Sydney Airport required airside drivers to experience four hours of supervised driving before taking a word-based multiple-choice test supported by a driver rules booklet ‘like a highway code’. Woon notes that ‘the expectation of varying ethnic and cultural backgrounds was taken into account in designing the computer-based training for Sydney Airport Corporation (SACL)’:

We knew that we were dealing with diverse backgrounds in terms of education, ethnicity and culture in our target model so an ‘experiential’ training model was agreed with the client ... the concept was to emulate the experience of driving at the airport since all drivers had to be competent to deal with that.

However no direct consultation had taken place with the various diverse ethnic groups employed among airside drivers during the development and implementation of the program. This was because ‘no direct evidence of ethnic/cultural differences or workplace challenges was identified in our project research’ (Woon 2008).

United Kingdom

The Airport Operators Association (AOA) had been using the Aircraft Service International Group (ASIG, <http://www.asigtraining.com/>) for its airside driver training but that contract had concluded at time of writing and the training scheme was under review (Martin 2008, personal communication). The chair of the reviewing Health and Safety Working Group, Ken Dodd, notes (2008, personal communication) that a recent review of the AOA *Standard of Recommended Practice* (SARP) for airside driver permits addresses the issue of language, but not of cultural behaviour and practices. The standard mandates that before a permit is issued to a person ‘unable to read or comprehend written instructions’: a risk assessment must be undertaken; consideration be given to translating safety training notices and training manuals into relevant languages;

safety-related training sessions be provided in relevant alternative languages; appropriate English language training be provided for longer-term workers who do not read English; and bilingual employees be used to interpret/translate information to their non-English speaking colleagues.

Dodd also notes that provision of the AOA airside driving permit is conditional on the candidate having obtained, as a minimum, a current UK, EC/EEU, or foreign equivalent driving licence for public roads (2008, personal communication):

I have the view that the SARP covers what is reasonably practical for an airport authority to cover under statutory legislation and the duty of care.

However he suggests that an issue of culturally-based driver behaviour might persist, in that, while UK drivers keep left, European drivers keep right.

Another major airside driving contractor, VT Airside Solutions (<http://www.vtairsidesolutions.com/>) does not address ethnic or cultural diversity in its training program (Lannigan 2008, personal communication). However, the company acknowledges that their candidates come from ethnically and culturally diverse areas such as Europe, Asia, America, and Africa 'but we do not keep specific records of this as we have no requirement to do so' (Perry, Lannigan, 2008, personal communications). Perry notes that VT Airside Solutions is associated with AirDAT (<http://www.airdat.org/>) and a website review of AirDAT's program³ revealed no evidence of material directly or indirectly addressing candidates' ethnic or cultural diversity.

Discussion

Safety is important at major world airports but is increasingly threatened by the population's need and desire for fast efficient travel, and the resultant system complexity and ticket price pressure. Training of airside drivers is identified as the most effective way to improve safety on the airport movement area, a critical accident zone. The ethnic and cultural demographic characteristics of drivers are identified as strongly related to the outcomes of training they experience but airside driving contractors in the US, England and Australia have not addressed ethnic or cultural diversity among candidates because they are not required to do so under statute. However, the diversity of candidates is not contested and some need for diversity to be addressed is acknowledged by contractors and new regulations.

Race is shown to be a major demographic characteristic of US society, especially the divisions between those of Anglo origin, others of European but non-English speaking origin, Hispanic and Latino descendants and those of African

origin. These divisions are more obvious in the Southern Florida region, where a statistical case study analysis was conducted. That analysis shows that there is a strong statistical relationship between the ethnic demographics of airside drivers and the methods of driving training they undergo.

The review of literature undertaken for this article demonstrates that training that deals with cultural awareness in a multifaceted way is likely to be effective, and that training that involves technologies, especially computers, achieves its best results when 'local experts' – ideally drawn from kin groups – are allowed to emerge and eventually take control of training programs, especially when those individuals are coached and supported by management. These results can be further enhanced when two-way symmetric 'constructively aligned' communications channels, at best deploying *praxis* techniques, are deployed rather than one-way asymmetric 'instructional' channels, such as traditional rote and memory learning. The environments in which these local experts and two-way symmetric *praxis* channels emerge and operate bear a strong resemblance to those family-like (compared with market like) social environments otherwise recognised as kinship groups, and allow individuals to 'get ahead' as well as 'get by'.

Outside of the airport movement area, ethnic and cultural variations – not just language – are routinely accepted as an important part of the driver training process. Automobile 'driving schools' around the world are observed by the authors as segmented into a wide range of ethnic and cultural groups, a range in which Anglo-English speaking groups are only a segment, not necessarily the majority. Driving schools in the English-speaking countries of the US, Australia and the United Kingdom are segmented into groups which cater for learners: with an English speaking heritage, those with a Chinese heritage, those from Hispanic backgrounds, Afro-American, Indian, Vietnamese and many more. This raises the question of why such ethno-cultural targeting does not take place in the driver-training regimes operating at airports. One reason commonly advanced is that 'English is the dominant professional language in the aviation industry' but this does not satisfy the original question, since English is indeed a dominant language in the US, Australia and the UK but effective multi-cultural training is regarded as both useful and viable among conventional automobile driving school operators.

Thus we find that the hypothesis – airside driver training programs in the US, Australia and the UK do not address inter-cultural issues but to do so would most likely enhance training outcomes – supported by the present study.

Conclusions and Recommendations

Evidence advanced in this article suggests that the relationship suggested between kinship, other ethnic groupings and convincing education, training

and marketing is neither new nor speculative, but well supported by religious, sporting and international ethnic media and marketing research and literature. Training programs for airside drivers which specifically address and positively exploit ethnic and cultural characteristics of target audiences where these are identified within the population should, on balance, tend to produce beneficial outcomes. Practices would benefit from government legislation to encourage this.

How educational designers should proceed from here is the subject of ongoing research by the present authors and will be addressed in another article. However, the following recommendations are advanced. As mentioned earlier, study, education, and strict enforcement are the tools currently being used by airport operators to address the problem of vehicle deviations. This system of addressing vehicle deviations is sometimes called *study, educates, enforces* (SEE) and has been successful in many areas, not just aviation (Clarke, 2002).

The first recommendation from our article is that a more detailed study (than the one conducted here) and training needs analysis of airport movement area driver demographics by ethno-cultural and geographic regions is needed to provide additional insights into the problem of runway incursions. For example, certain regions (such as South Florida) have racial and ethnic differences that lead to communications barriers not necessarily experienced in other regions.

The second recommendation is that concerted efforts (assisting or complementing those of the present research team) be devoted to constructively aligning the requirements of airport movement area driver education / training with the ethnically diverse characteristics of the drivers themselves.

It is clear that adoption of this recommendation will tend to reduce the need for the third aspect of SEE, enforcement.

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(Footnotes)

¹ Described herein as 'OEP-35 US towered airports', where OEP refers to *Operational Evolution Partnership* and the 35 refers to the group of airports around the United States which handles 70 percent of passengers at any time, domestically or on international connections, as well as those airports which act as service hubs.

² Developed originally for the public relations industry but now adopted as valid in more general communications research

³ <http://www.airdat.org/candidates.asp?PAGE=AirsideDrivingCourses&SUBPAGE=WhichCourse?>