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Author: J. Carlisle , R. Bhanugopan and A. Fish

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Author Address:

afish@csu.edu.au

bramudu@csu.edu.au

jcarlisle@csu.edu.au

CRO identification number: 25288

Training needs of Nurses in Australia: Review of current practices and future research agenda

ABSTRACT

Despite a significant degree of academic and practitioner interest, the topic of Training Needs Analysis for Nurses (TNAN) remains underdeveloped. A key limitation is the fact that TNAN lacks a consistent conceptual periphery and an unequivocal proactive model. The specific contribution of the current paper is in developing a logical model of TNA for Nurses employed in health care organisations in Australia. In so doing we draw insights from a number of discreet literature bases. Thus, the paper should aid future research in the area of TNAN through (1) helping researchers to clarify the conceptual boundaries of TNAN and (2) providing a theoretical framework that could help researchers in framing their research efforts in the area.

Key words: Human resource management, public sector, Training needs analysis, Nurses, Australia

Appropriately trained employees are vital to any organisation in any industry, as staff members are generally the only resource a firm has that cannot be reproduced, indeed that provide the principle source of a firm's competitive advantage. In this sense, training becomes an essential element to organisational success, and can have significant benefits to the organisation. Thus, appropriate and systematic approaches to training specifically; and investment in human capital more generally, can raise the productivity of workers resulting from skills improvement, thus helping to ensure better qualified workers and managers (Kai Ming Au, Altman & Roussel, 2008). Bowman and Wilson (2008: p38) suggest "Training needs analysis is an important step in the systematic training cycle, the following stages are; training design, training delivery, and evaluation". Boydell (1976 p3) who was one of the first to present the training cycle further argue, "The identification of training needs must be resolved before training can be usefully undertaken". Training needs analysis, how it has been conducted and how it can improve is the focus of this study. This paper will therefore examine the training needs analysis (TNA) process by examining literature regarding the importance and benefits of TNA, and issues relating to TNA and current practice and models. This paper will then look at how TNA applies to; and is currently practiced within, the healthcare industry, specifically amongst a group of nurses. This paper will also address how TNA tools relate to healthcare workers, particularly nurses, within Australia and how it may be able to improve the current TNA process for nurses in Australia, which have not previously been reported in

literature.

Training Needs Analysis: An overview

Over the last decade, a great deal of attention has been devoted to examining the links between human resource management (HRM) and organisational performance' (Harris, Cortvriend, and Hyde 2007, Nicholas, 2003, McCabe and Garavan, 2008). Several studies have been conducted on the link between HRM practices and employee performance (Dietrich et al 2007, Harris et al 2007, Kissack and Callahan, 2010, Nicholas, 2003,). Indeed Harris, Cortvriend & Hyde (2007) maintain that there are several HRM practices, including staff training, which has a positive relationship on performance in an organisation. This is further supported by a Canadian study which identified professional development as one of seven key staff retention strategies. This study stated that, participants highly valued educational opportunities, with most participants unhappy over the resources available for further development (Dietrich Leurer, Donnelly & Domm, 2007). In short 'most of the capabilities a firm processes can be directly linked to human capital' (Bhattacharya & Wright, 2005).

Training needs analysis (TNA) is an important HRM activity; and is, a 'methodical investigation and analysis into an organisations current and desired performance levels, focusing heavily on the ability of its staff and their support networks' (Denby, 2010, Knight, 2009, Nash, 2009, Peters, 1994). If TNA is not carried out adequately, training may not be consistent with the needs of employees or the organisation. This process is often over looked in most organisations, or carried out incorrectly. Nankervis, Compton & Baird (2002) indicate that organisations invariably do a poor job of assessing training needs, or do not carry out this assessment phase at all. Further; a study conducted by Azam Roomi & Harrison (2008), found that only one quarter of participants within the organisation studied received 'growth orientated training' within the previous two years with growth being one of the key goals of the organisation. This suggests; that the practice of conducting an effective TNA, is often inadequately performed in most countries, including Australia. Even though TNA is under utilised, it can have many useful benefits for an organisation. These include; being used to address issues such as; (i) participation, (ii) strategic focus, (iii)

learning organisational culture and (iv) collaboration (Desombre, Munro and Priests, 1995, Jayawarna, Macpherson & Wilson 2007, Reed & Vakola, 2006) It can also be argued the appropriate use of training needs analysis can prevent unnecessary spending on inappropriate training programs and focus on programs that will in fact help the organisation obtain its goal and maintain adequately trained staff.

Such benefits are also reflected by Denby (2010), who presented a case study in which an organisation reported a 56% increase in productivity after implementing improvements recommended by the author's consultancy company after conducting a TNA, thus establishing the potential benefits of a thorough TNA. Many organisations though do not appear to benefit from TNA. This appears to be because they simply do not carry out adequate TNA for their organisation. This is generally due to the fact that the TNA process is usually viewed as too costly and time consuming (Anderson, 2004). This highlights the need for new research to take place into the TNA process, to not only emphasize the benefits of TNA; but also, to assist in evolving current practice of the TNA process, to gain the maximum benefit for both the organisation and the individual.

Training Needs Analysis models

Despite the growing need for further research into TNA, there are several models relating to current practice that can help to guide the TNA process.

The Traditional Model

'Much organisational training which is carried out today is based on a traditional mechanistic approach to adult learning brought into practice over two hundred years ago' (Anderson, 1994:p23). The focus of this model is very much on job behaviour and task analysis, using quantitative data and formal interviews to gather information. However; this approach is very comprehensive and time consuming, possibly resulting in the data collected becoming irrelevant by the time an appropriate training strategy is developed. Anderson (1994) posits that; in the rapidly changing organisational environment, that TNA processes need to be flexible, and adaptable to rapidly changing organisations. Indeed one of the

shortcomings of the traditional training model is its large focus on predetermined outcomes. This neglects the possibility of unplanned learning taking place. Due to these shortcomings, Anderson (1994) suggested another approach to TNA; 'the proactive approach'. In this model Anderson (1994: p24) argues that; *'training must be perceived as a proactive process which anticipates trends and future changes and which prepares people to meet them'*. The proactive approach to TNA aims to help people actively seek out ways to develop skills currently held, as well as improve the quality of their contribution to the organisation, and their life at work. Anderson (1994) suggests this approach should change the focus of a training needs analysis to looking at future efficiencies, rather than past deficiencies (Anderson, 1994). Besides, Leat and Lovell, (1997) point out there are several flaws in traditional TNA approaches and suggest; so as to establish training and developmental needs effectively, techniques need to be developed which merge analysis at a number of different levels of the organisation.

Practical TNA Models

Chiu, Thompson, Mak and Lo (1999: p80) proposed a TNA model aimed at answering four questions. First, who are the key initiators of the TNA studies? Secondly, what are the levels of interest the TNA studies seek? Thirdly, what are the methods used? Finally, what is the intended purpose of the analysis? From this model, an outcome for the TNA can be derived. The model also considers three different approaches to TNA including, (i) trainer centred, (ii) demand-led, and (iii) supply led. Whilst this model does help the TNA coordinator select the appropriate approach for the desired outcome, it does not provide any guidance as to undertaking a TNA that is sufficiently comprehensive and effective. As a result, this may mean that the TNA is not entirely useful. However, this model is useful *'in guiding further research into TNA, and in helping to classify future studies'* (Chiu et al. 1999: p86).

Al-Khayyat's (1998: p21) practical model proposes six elements. These are; (i) 'plan to plan, (ii) data gathering, (iii) develop data gathering cycle, (iv) implementation, (v) data analysis and plan development and (vi) evaluation and feedback. This model *'allows for the incorporation of various data gathering techniques for a complete and thorough TNA that helps in identifying the training needs and also*

evaluating the training outcomes'. The difficulty of this model is; it is a very time consuming process to implement, thus resulting in higher costs and highly taxing on other resources. As this model is designed specifically for partner institutes; organisations with characteristics differing considerably from other organisation types, it may not be appropriately adopted to a standard for profit business organisation.

Further to the proposed models for TNA, there is an automatic tool available to design tailored training programs for an individual organisation. According to Eigheten (1999) a program such as 'TNA 2000' is able to, identify the different competency levels amongst staff. This program is capable of producing a unique training program for every staff member, which meets only their training needs. However; it seems that the organisation must still organise, and run the training program design, possibly incurring a rather large cost. Programs such as TNA 2000 have proven to be useful aids to workers carrying out the TNA process, and assessing the results. However, they are not necessarily an 'all round' TNA tool. The models discussed above, have all contributed in various ways to the development of an effective and efficient TNA process. However, few offer a comprehensive view of organisational and individual training needs and goals. This means that, a combination of the above models may be needed to carry out an appropriate TNA. Thus increasing the amount of time and resources spent on the entire TNA process.

Training Needs Analysis for Nurses

Within the healthcare industry generally; and nurses more specifically, it can be difficult to consistently conduct thorough TNA. For example, there are often issues such as nurse shortages directing the organisation's focus. Equally, the need for and importance of TNA is often underestimated in many different industries. However, nursing specifically and the healthcare sector more generally, seems to be below average when it comes to developing and implementing TNA strategies. This is reinforced by Gould, Kelly, White, & Chidgey. (2004) who conducted a review of literature focused on empirical research concerned with the need to conduct TNA within the healthcare profession. This review found, 'of 266 articles identified, only 23 (8.6%) contained empirical findings', and most of the studies were

undertaken in the UK. This strongly highlights the need for further empirical research to be undertaken in this area to provide a greater understanding of the TNA process, and the benefits that can potentially result for a firm in understanding and appropriately implementing TNA in the training and development cycle. To further support this, Furze & Pearcey (1999) undertook a review of the continuing professional development of nurses; and concluded that, provision was still fragmented, inequitable, poorly funded, and the cyclic process of the training strategy was often incomplete.

Importantly, Gould et al (2004) highlighted two key areas in regard to TNA in the healthcare industry. First, they highlighted the importance of training needs analysis to be used strategically; and in full, to obtain maximum benefit for the organisation and the individuals involved. Secondly, they identified the high need for further research into the application of TNA in the healthcare profession, particularly in relation to nurses. *'The climate of rapid change against the background of nursing recruitment difficulties in the health service magnifies the need for TNA to be used appropriately'* (Gould et al. 2004: p472). Unfortunately within the healthcare profession; particularly for nurses, TNA is often undertaken in a way that denies maximum benefits, and places barriers to participation, thus making it harder for nurses to access training resources. A study conducted in Ireland (Murphy, Cross & McGuire, 2006: p. 378) found the main cause of nurses not wanting to participate in continuing professional education was lack of employer support; *'Although respondents understand and accept the positive outcomes, they believe that continuing professional education is essentially a job related activity, reliant on their employing organisation'*. This supports the view that nurses who want training and further education go without simply because the organisation does not offer enough encouragement. In a further European study (Van der Heijden, Van Dam & Hasselhorn, 2009); it was established that, an unsupportive workplace and low leadership within healthcare organisations resulted in low job satisfaction, which in turn raised the likelihood of nurses intending to leave within one year. This research again highlights the need to have appropriately trained staff, that requires a sufficient TNA to ensure that employees are; (i) suited for their jobs, (ii) competent in their jobs, and (iii) receive the training necessary for them to build the

competencies they require in their workplace.

The benefits of TNA can be vast; however with nursing, the TNA process is just not executed appropriately to maximise the potential benefits. Gould et al. (2004: 485); when reappraising empirical research concluded that, *'smaller scale (micro level) TNA concerned with staff in a single organisation (or similar smaller organisations) emerged as the most useful in practical terms as well as having the most to contribute towards theory'*. On the other hand the macro level TNA concerned with more than one large organisation did very little to address organisational goals and training needs. Despite this; of the empirical research reviewed by Gould et al 2004 (n 23), only 7 fell into the category of micro level. This further emphasises the need for TNA to be carried out in a way that will provide maximum benefit to both the nurses, and the organisations they work.

Factors affecting nurses' competencies and training needs

Not only is research needed into the training needs of Australian nurses but the reasons for these training needs also require attention. Recent studies (Saeki, Izumi, Uza & Murashima 2007, & Burke, 1999) have shown there are many elements that can influence that training needs of an employee, including gender, experience, marital status and role awareness.

Burke (1999) conducted a study within professional services firms looking at differences in training needs between men and women, and employees within different organisational levels. This study found that men and women reported similar training needs; however focus groups revealed women rarely received training in particular areas and thus their training needs were not addressed. Burke (1999) also found considerable difference between training needs of individuals at different levels. The study focused on four organisational levels, partners, managers, professionals and administration, each group reported varying training needs. This study looked at just two factors that may effect training needs and demonstrated how an

individuals training needs can be vastly different from the perceived 'organisational training needs' due to factors such as gender or organisational level.

Saeki, Izumi, Uza & Murashima (2007) showed that there are many factors that can influence the competencies of nurses and thus affect their training needs. Their study based in Japan, looked at factors such as gender, age, experience, educational background, affiliations with other organisations (eg government or unions) and participation in off-the-job training. In this study it was found the factors having the largest effect on professional competencies were experience, marital status, participation in off-the-job training, and experience in job transfers or rotations. This study displayed evidence of several factors that need to be considered during the TNA process in order to ensure its success. Saeki et al (2007) concluded that 'the development of well established professional competencies will depend on an organisational approach and the creation of a systematic continuing education system'. This emphasises that the organisations need to develop a robust TNA system that will ensure professional competencies are well grounded in their employees and that the process of training can be a continuous one.

Finally a study conducted in China demonstrated the effects internal and external factors can have on the success of training programs (Zhao, Zhan & Namasivayam, 2004). 'Internal factors refers to issues affecting the design and implementation of the training program and external factors refer to issues pertaining to the training climate of the organisation' (Zhao et al, 2004). This research aimed to find, what role internal and external have on training effectiveness? What subcomponents of internal and external factors have the strongest relationship with training effectiveness? The research was conducted looking at the training effectiveness from the perspective of the employee (Zhao et al, 2004). This study found external factors had the greater impact on the training effectiveness. Results showed 'work environment and the extent to which

managers motivated and encouraged employees to acquire learning was significantly related to the employees perception of the training effectiveness' (Zhao et al, 2004).

These studies demonstrate how important consideration of factors other than training needs is. Looking into the factors such as gender, job rotation or internal and external influences can contribute to the overall success of the training implemented within an organisation.

A Psychometrically valid TNA Tool

Hicks, Hennessy & Barwell (1996:262) posit that; *'a growing demand for professional updating and training within the health service has created a proliferation of post-registration courses, many of which fail to reach appropriate personnel, or the real training objectives of the participants or their managers'*.

Hicks and Hennessy (1997) have led the way in research relating to TNA for nurses. They have found over several studies that, current TNA and training and development processes used in the healthcare profession were not effective in ensuring nurses acquire the skills they needed to successfully perform their jobs. Hicks and Hennessy, (1997:391), believed in order for TNA to be of value, the data collected must go beyond, *'eliciting un-prioritised wish lists from respondents and instead produce a data set that reflects both the perspectives of the organisation and potential participants of future courses'*. Similarly; Bowman and Wilson (2008: 38) posit that, a quality TNA may need to vary from a 'cheap and cheerful canvassing of opinions about what is needed'. Due to the lack of information and flawed TNA instruments being used, Hicks, Hennessy and Barwell, (1996: 262) developed a *'psychometrically valid training needs analysis tool for use with primary health care teams. This instrument was shown to have validity, significant reliability and is unique of its kind'*.

This psychometrically valid and reliable TNA instrument has the potential to identify both common training needs; as well as local requirements, thus establishing it to be a valuable aid to identifying training needs, and developing training strategies. The TNA tool developed in this study was a 30 item

questionnaire in which participants were asked, (i) how important certain tasks are to successfully performing their jobs, (ii) how well they currently perform these activities, and (iii) is it likely the performance of these activities will be improved by training or organisational change (Hicks, Hennessy & Barwell, 1996). What makes this tool so valuable is; it can be modified to suit different scenarios, purposes and cultures without compromising its high validity and reliability.

Psychometrically valid TNA tool in use overseas

This TNA model; developed by Hicks and Hennessy (1997), has been successfully used in the United Kingdom on many occasions (Hennessy & Hicks, 1998). It has been used to identify; (i) training needs, (ii) establish trends in training relating to demographics as well as, (iii) evaluating the overall training strategies for primary healthcare workers nation wide. In addition to this work in the UK, this tool has been successfully used in several other countries such as Greece, Indonesia, United States of America and Australia. Markaki, Antonakis, Hicks, & Lionis (2007) conducted a study in Greece and the results showed the properties of the Greek version of the TNA tool for nursing staff was robust. The Cronbach alpha was found to be .985 (Markaki et al. 2007).

In Indonesia the instrument was employed to identify the role of different categories of nurses (Hennessy, Hicks, Hilan & Kawonal, 2006). The study established that, '*significant differences in job profile were found in nurses from different provinces*' (Hennessy et al, 2006:10). This result established geographical location had an influence over the nature of the role, and thus the training needs of the nurses.

These two studies, show how the tool developed by Hicks and Hennessy (1996) can be used in different ways, in two distinctly different cultures, and yet still maintain its reliability and validity. This indicates the value of the tool is very high, and uses for the tool are numerous.

Due to the fact that the questionnaire maintains its reliability and validity across different countries and culture, comparative studies can be conducted using the instrument. Such a study was conducted across the UK, USA and Australia (Hennessy & Hicks, 1998). The comparison conducted involved 216 nurses across the three countries with participants being drawn from different grades of nursing. The aim of the

study was to examine the use of the questionnaire in different contexts internationally. It was also thought it could, '*aid collaborative activities and shared nursing developments, especially through global IT network teaching programs*' (Hennessy & Hicks, 1998: p. 111). This study found; '1) There are no universal trends in training needs according to the locations of practice, 2) Training requirements are specific to the actual role performed and organisational environment, and 3) these must be assessed on a regular basis before education is commissioned in each of the countries' (Hennessy & Hicks 1998). This study emphasised TNA needs to be done regularly, which as discussed earlier, is not a common practice. TNA also needs to be carried out on a local level. Importantly, training needs for nurses will vary from organisation to organisation, and thus if they are carried out for an international comparison they may not be very informative to the individual.

Of the 216 participants in this study, only 61 (28%) were from Australia or the USA. This means more than two thirds of participants were from the UK (Hennessy & Hicks, 1998). This study also made comparisons between the countries; however, no figures were given in these comparisons. For example, the findings state for the activities relating to team work, '*US primary care nurses reported lower training needs than the remaining groups*' (Hennessy & Hicks, 1998: p. 113). This statement gives very little indication as to the training needs of each group, simply one is lower than the rest, by how much, or if any other group has a significant training need can not be determined from the presented findings. Due to the broad nature of the findings; and the sampling of participants, it would be difficult for the results of this study to be applied to any one country or organisation. As such TNA appears to be the most effective when conducted on a local level. The main issue that arises; is there has been very little empirical research conducted in this manner when it comes to TNA.

TNA for Nurses in Australia

Current practise of TNA for nurses is a concern; however in Australia, it appears to need greater attention. There has been very little research conducted into the training needs of nurses in Australia. The few

studies (Farrell, 1998, Halcomb, Meadley & Streeter, 2009, Hick and Hennessy, 1999) that have been conducted within Australia are either too specific to gain any insight into training needs of nurses, or the training needs looked at are not the primary focus of the study, and thus are not discussed at length. The comparative study of Hicks & Hennessy (1998) was one of the first studies involving TNA for nurses to be conducted in Australia. However, the results of this study can not really be applied generally to nurses Australia wide. Hick and Hennessy (1999) also conducted a second study in Australia, using the instrument they designed for conducting a TNA. This study was conducted in a Victorian not for profit hospital involving 46 nurses. The results showed training needs were apparent in the research area; however, this was not perceived as important to the nurse's role. Other areas with training needs included; communicating with patients and their carers, and supervision of colleagues. The focus of this study however was defining the role of a nurse practitioner, not so much focusing on the training needs of the nurses.

Previous studies (Halcomb, Meadley & Streeter, 2009) have found the role of the nurse practitioner is very difficult to actually determine, and thus this study was attempting to use the psychometrically valid tool to try and do this. Nevertheless; an important factor to deduce from this study is that, the study indicates that the instrument is appropriate for use in the Australian context, to determine specific service delivery according to locally determined needs (Hicks & Hennessy, 1999). This study did not provide a great insight into the training needs of nurses in Australia as that was not the focal point of the study. It did however establish the use of the instrument in an Australian context would be valid and provide reliable results; this is of great help for further research. Another study was conducted in 1998 into the training needs of palliative carers. In this study a TNA of palliative care providers was conducted by sending a questionnaire out Australia wide. The results of this study showed '*training needs, as identified by the palliative care providers, include pain management, loss and grief, and drug therapies*' (Farrell, 1998). Whilst this study did carry out a TNA, it was conducted using a tool that is specific to palliative care providers and not transferable to other nursing areas. Also the tools used largely asked participants

what they felt were the training needs this means the results may not be in line with what the participants actually need to perform their jobs, or be in line with the organisations needs and goals.

Finally; a study conducted in Australia by Halcomb, Meadley & Streeter, (2009), looked into the professional development needs of nurses. This study focused on general practice nurses employed in New South Wales. The aim of this study was to; *'report the results of a survey of general practice nurses within NSW to identify their perceived educational needs and preferences for the delivery of educational programs'* (Halcomb, Meadley & Streeter, 2009: p. 202). The study found that, the majority of nurses were keen to participant in further professional development. Halcomb et al, (2009: p. 201) did however encourage, *'revisiting the current models of providing education and exploring flexible modes of course delivery, as well as opportunities for inter-professional education and taking time to regularly assess the perceived learning needs of clinical nurses'*.

The point of regularly assessing training and educational needs of nurses is highly important as these needs are continually changing. However this study focused on asking participants what it is they wanted to learn. A TNA was not conducted, and thus the training being asked for by participants may not actually be what is needed to improve the participant's ability to successfully complete their job. With no comprehensive TNA conducted, the possibility exists there may be a great deal of time and resources inefficiently used for training purposes that are essentially not of benefit to the participants, or to the organisation if this model is used for identifying training needs. Nevertheless; this study did highlight the fact that Australian nurses want and need further training opportunities, however the study did not accurately convey the training needs of nurses, nor did it include how these training needs are effected, or resolved.

Each of these studies has contributed to the start of research being carried out on the training needs of nurses in Australia. However these studies either do not have the training needs of Australian nurses as their main focal point, or the TNA is for a different purpose, or they do not actually conduct a TNA for establish these needs. Also, two out of these three studies were carried out over ten years ago, thus the

results may now be outdated and in need of revision. This draws attention to a rather large research gap that is the research proposed here aims to start filling. For the discrete literature (Hick, Hennessey and Barwell, 1996, Burke, 1999, Saeki et al 2007) available, a model has been proposed for training needs analysis for Nurses in Australia. Figure 1 exhibits a TNA model for nurses working in the Australian health care industry. From the previous literature a model has been proposed for nurses in Australia. The model includes two important facets; they are training needs and professional competencies. These have been drawn on from the literature (Hick, Hennessey and Barwell, 1996) administrative tasks, communication and teamwork, clinical tasks, management and supervisory tasks and research and audit, are important components of training needs. The professional competencies include, job rotation, experience, education, non mandatory training and current position of nurse (Burke, 1999, Saeki et al 2007). The training needs and professional competencies are influenced by the internal such as training preparation, training implementation and training design with in the hospitals. External factors include training assessment, work environment and most importantly individual characteristics of staff (nurses) (Zhao et al, 2004). However a broader perspective in implementation of training needs analysis is moderated by a number of factors such as the hospital strategy, the available technology to impart the training programs and the age of the participants. While looking at this model the successful implementation largely hinge on internal and external factors which tend to significantly impact on training needs and professional competencies of staff. The model is prescriptive and needs to be tested across several hospitals in Australia to ensue it is valid and reliable.

TNA Research Agenda

Research on this area has been carried out primarily in the UK, in the USA, and in other countries. Unfortunately, TNA for nurses in Australia is very much an under researched topic. Equally, there is scant research available into the importance and benefits of conducting appropriate TNA for nurses in Australia. However; the research that has been conducted involving training needs of nurses in Australia, has not been focused on a TNA using a psychometrically valid tool, nor has the research considered the

factors that may influence the training needs of particular nurses or organisations. Future studies aim to look at both these factors by conducting a TNA using the tool which is tested for its validity and reliability (Hick, Hennessy & Barwell, 1996). Research should consider the qualifications and education of participants, in order to address how these factors may influence the training needs of nurses in Australia. It is hoped that this will fill the gap that is the lack of empirical research conducted into the TNA of nurses in Australia and promote further research to give a deeper understanding of this topic to Australian nurses and the organisations for which they work.

Direction for further research

The researcher has already completed a survey using a psychometrically validated questionnaire developed by Hick, Hennessy and Barwell (1996). The objective of the research is to identify the training needs of nurses in hospitals and examine any variables that may influence the training needs. A sample of three hospitals, one in New South Wales and two in Victoria was used and the survey yielded 72 responses from qualified nurses working in differing positions. The data collected were analysed from four perspectives, (i) the importance of a task to successfully performing the nurses job (performance 1), (ii) how the task is currently performed (performance 2), (iii) what impact organisational change would have on the ability to successfully perform the task (organisational change), and (iv) what impact training would have in the ability to successfully perform the task (training). Factor analysis (data reduction technique) was used to find out the structure of the variables and the underlying factors and there reliability (Cronbach α). From the analysis a number of factors emerged. Inter correlation among factors were identified. The results showed a number of factors had significant relationships. Further a multiple regression analysis was performed to find linear relationships between dependent variables and predictor variables. It was found that there were a number of significant relationships among the dependent and predictor variables (eg position, and experience). A one way multivariate analysis (MANOVA) test was employed to find out if there was an overall difference among the dependent and independent variables with in several groups of respondents. The results showed a significant difference among the groups.

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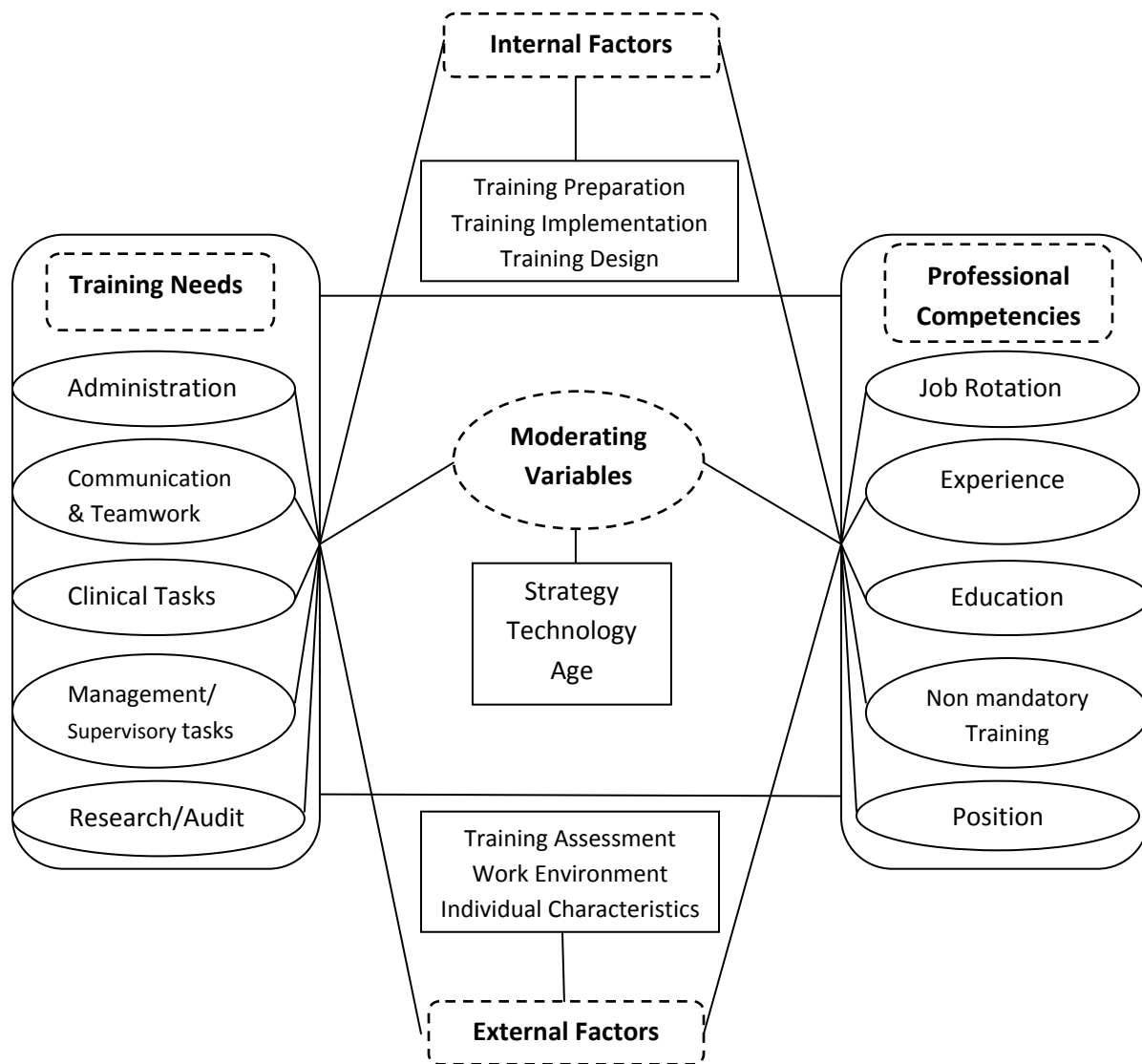


Figure 1: Proposed Training Needs Analysis model for Nurses in Australia