



## **TETA/BTC TRACER STUDY ON CANDIDATES FUNDED FOR MARITIME AND LOGISTICS STUDIES**

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## **1. Introduction**

The Belgian Technical Corporation (BTC) and the Transport Education and Training Authority (TETA) signed a Memorandum of Understanding (MoU) to establish a framework for cooperation and collaboration in establishing training programmes for Rail, Freight Handling, Road Freight and Maritime including, amongst others, establishing a funding mechanism for bursaries for the selected candidates. Antwerp/Flanders Port Training Centre (APEC), a training provider in Belgium is also party to the MoU. The roles and responsibilities of the three parties are:

- TETA is responsible for programme coordinating, selecting and screening of candidates in conjunction with the BTC local representative.
- BTC is responsible for funding and approving candidates.
- APEC confirms the qualifying criteria and delivers the training programmes.

In February 2015, TETA and BTC made a call for a tracer study to determine the impact made by the training interventions in the maritime and logistics focus area for both the Belgian and South African (SA) components for the period 2010-2014. The study is expected to generate information on the possible shortcomings of the training programme; progress of the candidates in respect of income, career and status levels; and the relevance of the acquired skills and knowledge for the workplace. The study is also aimed at assessing the possibility of delivering the training programme that is currently offered in Belgium through the Maritime School of Excellence (MSoE) in SA. The information generated will assist the parties in future planning and decision making, and provide a better understanding of the relevance and suitability of the programme as well as identifying areas of improvement. It will also assist in building a business case for further investment into the programme.

## **2. Objectives of the study**

The objectives of this study are to:

- Evaluate the existing course delivery model;
- Assess the impact of the programme in respect of the knowledge and skills acquired from the exposure and training;
- Assess the value realised by participating organisations from candidates who have participated in the programme;
- Determine the kind of improvements that can be made to the programme for more benefit to be derived by participating organisations and the country in general.
- Determine the feasibility of integrating the programme into the maritime programme of the Maritime School of Excellence;
- Evaluate the existing evaluation and selection process and propose measures to improve the process;
- Determine perceptions of graduates and employers about the programme.
- Analyse the study programme in respect of current labour market issues; ability to meet workplace demands; study conditions and provisions; and perspectives on maritime and logistics studies.

The specific objectives relating to the Maritime and Logistics training programme and the employers where the beneficiaries were employed after completion of the training are to:

- Obtain the views of employers on the usefulness of the interventions;
- Provide an in-depth analysis of nature of work and related competencies in the workplace so as to identify gaps in the training programme;
- Gather employer views on the Maritime and Logistics related studies;
- Analyse current labour market issues (quantitative and qualitative structural data on employment and careers in the maritime sector);
- Evaluate graduate experiences in respect of study conditions and provisions of the course.

### **3. Literature review**

#### **3.1 Introduction**

Tracer studies have become increasingly relevant in assessing the impact, success and efficacy of educational and other training programmes. Tracer studies are closely related to programme evaluation as they assess the success of programmes based on the difference they make in the lives or employment prospects of beneficiaries. Many large scale training interventions conducted over long periods include different cohorts of participants or learners as such the tracer study in such instances follows more of a longitudinal approach as it assesses how a participant has performed in the labour market or employment after the training has been conducted. Training programmes tend to be linked to improvements in the working performance of the participant and improvements in the career prospects of participants.

The literature review is essentially about delimitation and selecting out of a large body of literature, and those sources which are relevant to answering the research questions of a study. This literature review distils key intellectual currents in the writings (academic and no academic) about tracer studies. The categorization that is used in this literature review is not problem-free; it seeks to capture the main trends and patterns in the literature which help in illuminating the research questions of this study. The literature review shows the trends in the literature and the nature of the lacunae which this study seeks to occupy.

In South Africa the field of tracer studies prioritizes University graduate destination studies (Bhorat, Mayet & Visser 2012; Kraak 2015; Case, Marshall, McKenna & Mogashana 2015) these studies focus on the availability of employment for graduates particularly based on demographic categories and socio –economic status. The literature shows that graduates from universities have better employment prospects in the economy than those without university education. In the South African context, questions of historical skewed racial relations between black and white graduates are still significant determinants of employment post-graduation even between those graduating in similar programmes. It is also crucial to note that there are differences in employment prospects for graduates from Historically White Universities (HWU's) and Historically Black Universities (HBUs). The contribution of this study to the literature is to bring focus to tracer studies that look into the vocational training level skills programmes. The literature review covers four areas: rationale for tracer studies; processes in developing tracer studies, challenges of developing tracer studies and examples of tracer studies in developed and developing countries.

### 3.2 Rationale for tracer studies

In the context of skills development and vocational training tracer studies arise within a context of the new human resources development system of democratic South Africa, the 1998 Skills Development Act and amended in 2008 (RSA 1998). The establishment of Sector Education and Training Authorities (SETAs) represent the key vehicles for responding to the skills deficit in the country. The SETAs are expected as part of their mandate to identify and respond to skills deficits within their economic sectors. As the driving force behind various National Skills Development Strategies (NSDS), they locate skills development needs against a backdrop of national skills development imperatives (Akoojee and Brown, 2009:271).

Tracer studies are similar to 'follow up' studies as they are based on following through on participants on a particular programme or educational project to find out how participation in the project has changed their lives. According to Cohen (2004:17) Tracer Studies are not a new methodology; they are an approach that can be used to find out more about a programme and its participants. A tracer study is a relatively short exercise that can be inexpensive compared to many other kinds of research. It is also easy to understand and easy to explain to all the participants. Like all research, such a study cannot prove that any outcomes found were a direct result of the programme; it can only support an assumption. A tracer study can, however, indicate trends and directions that can affect programming and policy. Tracer studies are an important analytical tool as their results indicate the extent of success or failure of a programme intervention.

The importance of tracer studies for institutional planners in educational institutions like SETAs is that they are able to inform future planning and influence the allocation of resources. In some instances the tracer studies becomes part of monitoring and evaluation, this is prevalent in Vocational Education and Training (VET) programmes. As Macchi Jenny and Wilhelm (2009:7) state 'A graduate tracer study is a powerful monitoring and evaluation instrument to gain information about the relevance and effectiveness of VET programmes. A tracer study tracks down a group of graduated trainees who have participated in VET programmes in specific trades and explores their current and past employment activities, any possible effects of the training/ studies on their income, the quality and relevance of training received, the interrelation between their studies/training and work and their satisfaction with the job. Tracer studies also generally provide information on ethnicity, gender and socio-economic background of the graduates in order to assess the poverty alleviation potential and the gender aspect of VET programmes.'

There are different purposes for a tracer study depending on the original question or project scope developed. These could range from and include the following:

- Gather information on a programme;
- Assess impact, outcome and relevance of an intervention;
- Provide information to funders, lecturers , institutional planners and employers;
- Assess cost effectiveness and benefits; and
- Align with accreditation requirements of SETA or any other authorities.

In the South African context tracer studies have focused mostly on University graduates primarily focusing on their accessing employment based on the period of time it takes after

graduation to find work. Some studies (Moleke 2005a, 2005b) found that the unemployment rate among graduates (between 1990 and 1998) is generally low as about 94% of graduates find employment within a year of graduation. The value of such studies is to link the socio-economic dynamics of race, class and gender to the tracer studies as tracer studies can never be done in a vacuum, they have to speak to the social context of a country where they are conducted.

Another aspect that tracer studies focus on is the pathways to work (Rogan and Reynolds 2015) or throughout the life course particularly of the youth (Case, Marshall, McKenna and Mogashana 2015). The emphasis in these studies is to understand how young people move from education completion to the labour market. Studies that follow this direction have a particular focus on tertiary leavers ("drop-outs") and graduates three years after they have completed. The studies are usually done through surveys that are undertaken on a large scale across a variety of institutions within a specific sector.

### **3.3 Processes involved in development of tracer studies**

Processes involved in the development of tracer studies are determined by the nature of the tracer study conducted. This is how a conceptual framework is designed as it has to speak to the main research question and the research objectives. For example in the context of a study which aims to focus on 'employability' of graduates or participants in a programme, then the processes involved would move from a basis of assessing how the programme has impacted on the employment prospects of the trainees. This assumption is closely associated to human capital theory which views the role of education in individual and economic terms. Other tracer studies may be focused on the specific effect of a single programme on the career mobility and work improvement of a cohort of individuals. In that case the focus is not merely on the programme itself but on the effect it has had on the participants based on their work opportunities.

Tracer studies involve a combination of qualitative and quantitative data collection and analysis techniques. Qualitative techniques predominantly look for meaning, attitude and common themes from interviews although others (Case et al, 2015) prefer a 'narrative analysis' which relates to each individual's story being unique and needing to be analysed as such. Narrative analysis is crucial as it shows how individuals assess the world around them, formulate their experiences and generate actions from such experiences. However, most tracer studies rely on key informant interviews (semi-structured) and in-depth interviews with a sample of participants. Quantitative data on the other hand are focused on the collection and analysis of numerical and statistical data. Quantitative approaches provide data that allows statistical inferences.

According to Balwanz (2014:131), the following five criteria should be met to ensure that a qualitative study is of good quality: (a) elicit in-depth individual and group discussion related to the research questions, (b) deliberately include voice from a range of perspectives, including perspectives from marginalized groups and individuals, (c) situate and make sense of data collected within broader national and international discourses, (d) identify and analyse key concepts and issues and areas of convergence, divergence and heterogeneity in the data collected, (e) provide multifocal feedback on researcher interpretation of data.

Tracer studies have tended to focus more on output, outcome and impact variables. However Macchi et al (2009) argue that tracer studies should not be restricted to focus exclusively on the

output, outcome and impact variables of programmes. Where questions of cost-efficiency and quality control are also of interest, input and process variables need equal consideration. Process variables include, for example, teaching and training methods and contents of curricula. Input variables include the motives which lead graduates to a certain programme, their socio-demographic and socioeconomic background, their education history and the study/ training conditions and provisions among others. All these variables should be evaluated to determine any correlation with the output, outcome and impact of a programme.

### **3.4 Challenges in development of tracer studies**

Tracer studies are conducted within spaces that are often contested and politically charged. As such the researchers often have to accommodate diverse interests of different groupings and stakeholders. Challenges arise with the logistics of administering a survey and the lack of responses. Some common challenges are:

- Institutions do not keep databases of previous participants.
- Some institutions do not want to release databases of previous students for a variety of reasons.
- Students / participants wanting to be offered employment before participating in the study.
- If the employer does not support the survey there will be difficulties in accessing former participants during working hours.
- Geographical location is a problem in tracer studies that aim to find people beyond place of employment or project. Some participants often do not see the value of the research since they have already left or moved on to other things. Accessing those in areas that are far from the city centres is also costly while numbers are lower in most instances.
- Database might contain outdated information, due to learners changing employers, residential addresses, and other contact details.
- Reluctance of qualified learners (or other stakeholders) to participate. The average response rate for tracer studies is usually below 50 percent.
- The employers (staff responsible for the qualified candidates or who can attest to the value added by the candidate) might have changed jobs.

On the methodological level Rogan and Reynolds (2015) have pointed out that a problem associated with tracer studies is selection bias since the ability to contact respondents may be correlated with a number of the outcomes being investigated.

### **3.5 A selection of tracer studies conducted in developed and developing countries**

Throughout the world, different countries are trying to create closer synergies between the needs and purposes of their education training systems, the local and regional labour markets, and their national economies. This is largely a result of an international consensus which, though contested, argues that people and organizations need to embrace new skills and knowledge at regular periods in order to meet the challenges of a much more dynamic and unstable economic climate (Unwin, 2003). Global inequality between developed and developing countries is a significant factor shaping tracer studies. In some developing countries tracer



studies are based on international NGOs commissioned research which prioritizes the assessment of the effectiveness of large scale projects aimed mainly at poverty alleviation, employment creation, skills training and other related developmental objectives.

The differences between tracer studies in developed and developed countries relates to the nature of the study being conducted. The examples cited below are from developed and developing countries and illustrate the variation in tracer studies influenced by the context and the objectives of the tracer study. Examples of tracer studies that are significant are the Botswana Training Authority's *Tracer study on the employment outcomes of the vocational training graduates*, the *Tracer Study of recent graduates from Vocational Education Institutions in Kotayk and Ararat Marzes of Armenia* by the European Training Fund.

### **3.5.1 Developed countries**

According to Kraak (2015: 95) the most consistent work in the area of tracer studies has been done by Ulrich Teichler and his colleague Harald Schomburg at the International Centre for Higher Education Research in Kassel, Germany. In 2006, they published a 12-country study on graduate employment, focusing on countries located largely in Europe but also including Japan. The survey was undertaken four years after graduation with a population consisting of the graduates of 1995 in 12 countries. Although the unemployment rate after four years was only 4%, there were higher rates of unemployment in the Southern Regions. A negative feature of the European labour market is the job "churn"-29% of graduates changed employers once, 22% were mobile twice in the four years surveyed, and 6% changed jobs three times or more. Other significant work on tracer studies is done in Australia by the Australian Council for Education Research (ACER) and the National Centre for Vocational Education Research (NCER). These tracer studies are largely longitudinal surveys which trace cohorts of students annually.

In the UK the government commissioned the 'Wolf Report' as a review of vocational education which was aimed at looking into the general collapse of the youth labour markets in UK. The Wolf Report emphasized pathways analysis to understand the varying challenges of participation in the labour market by youth who have completed vocational education routes. Like other similar studies the study identified mismatches between progression requirements and vocational education. Apprenticeship play a crucial role in providing employment opportunities although like in other developed countries young people change jobs frequently as the labour market is constantly in flux.

### **3.5.2 Developing countries**

Botswana's tracer study on the employment prospects of vocational graduates sought to track down Vocational Training (VT) graduates in BOTA (Botswana Training Authority) accredited institutions and establish the impact of employment opportunities for VT graduates in Botswana. More specifically; the project sought to:

- Establish occupation of VT graduates in relation to their field of training;
- Determine the means by which graduates acquire employment;
- Determine the extent of occupational mobility of the VT graduates;
- Establish employment opportunities of VT;

- Establish employment rates of VT graduates;
- Establish the difficulties encountered by those graduates that have not been able to find relevant employment (Bolaane et.al, 2010).

A similar tracer study was conducted in Samoa but it focuses on employers to follow up on information provided by students in a previous survey. The objectives were: to confirm the employment statuses of the TVET graduates; to obtain an assessment by the employers of the skills and knowledge of the TVET graduates being applied in the workplace; and to identify the skills that they lacked in the workplaces. Key findings from this study were:

- A comparison of the year of recruitment to the year of graduation found that a large number of graduates in each broad type of qualifications (diplomas, intermediate certificates, and certificates) were recruited the 'following year' after graduation. This correlates with the time that took graduates to find work as indicated in the 2013 tracer study – at least 3 months, as most PSET providers hold graduations at the end of the year allowing graduates to find work in the year that follows.
- The graduates who were identified as 'former employees' of the employers, mostly left for two main reasons: to work with other employers and/or were terminated due to unacceptable behaviour and poor performance. Another major group of former employees left work to migrate overseas. The former employees mostly left work to work with other employers the same year they were recruited; those terminated left after 4+ years since recruitment; and those who resigned to migrate overseas left 2 years after they were recruited.
- Comparison of occupations indicated by employers against occupations stated by graduates in the 2013 tracer study confirmed an 89 percent match. However, the comparison also showed that almost all of the graduates had no knowledge of the accurate titles of their jobs.
- The International Labour Organization (ILO) International Standard Classification of Occupations (ISCO) was used to code the occupations of the graduates. The ISCO coding resulted in the concentration of certificate and diploma holders at level 4 'clerical support staff'; while intermediate certificate holders were mostly at level 7 'craft and related trades workers'. These classifications for the three broad types of qualifications were a result of the concentration of most qualifications in study areas (trades, computing & office administration) specific to these ISCO occupational levels. Similar results were found in the ISCO coding of the 2013 tracer study. (SQA, 2015)

According to Kraak (2015) in Brazil, graduate unemployment reached a high of 41% in 2008, reflecting a severe mismatch between the demand and supply of skilled human resources. The system of higher education in Brazil is strongly shaped by class, with the bulk of poor students going to private higher education, comprising 71% of all enrolments in 2004. Few of the more costly academic programmes such as engineering are offered by private providers. Quality is generally very low. However, it is the only accessible form of higher education for low-income families in Brazil even though they are obliged to pay fees. In contrast, public higher education in Brazil is free, but academic requirements are more stringent. It is unsurprising, therefore, that 41% of students in public higher education come from the wealthiest 10% of the population, and only 5% from the poorest 20% (Rodriguez, Dahlman and Salmi 2008:208 cited in Kraak 2015).

A number of SETAs in SA have recognised the need to conduct tracer studies to determine the impact of their skills development programmes on former beneficiaries. A few SETAs have already conducted tracer studies and some are in the process of undertaking those studies, whilst some are planning to do so in future. The SETA for Finance, Accounting, Management Consulting and other Financial Services (FASSET) conducted a tracer study in 2013 to determine the value of its Work-Readiness Programmes and to gauge the progress made by beneficiaries since completion of the programmes. The study was also aimed at obtaining beneficiary views as well as the views of employers on the value of these programmes in preparing them for the world of work. Telephonic interviews were conducted with a sample of 1 508 beneficiaries and 148 employers. The study found that the FASSET Work Readiness Programmes contributed to “reducing unemployment; matching demand and supply; providing employers with people that are employable; saving employers time and money; providing beneficiaries with employability skills to enter and progress in the labour market; and enhancing career development of beneficiaries so that they could take responsibility for their own lifelong learning and work”.

The Manufacturing, Engineering and Related services SETA (merSETA) conducted a tracer study in 2012 aimed at providing information on the activities, employment status and expectations of apprentices after passing their trade test through the Accelerated Artisan Training Programme (AATP). A total of 510 artisans were interviewed – AATP (408) and Non-AATP (102) – including 30 employers and 10 training providers. The study found that 54 percent of the respondents were in permanent employment, 44 percent were on contract employment, whilst 3 per were employed on a part-time basis. The study also found that the retention rate was relatively high as about 59 percent of those that were employed still worked at their original training company. The study recommended, amongst other things, that the tracer studies results be used for future grant allocation with more grants being allocated to companies that were willing retain trained apprentices. It also recommended that merSETA should take a more active role in facilitating employment for qualified artisans. The study also found that qualifications held prior to commencing AATP had no bearing on the length of time it took to pass the trade test.

The above examples show that within developing countries there are concerted efforts to conduct tracer studies mainly for purposes of assessment of vocational skills training programmes and also of public higher education. Governments are concerned about the outcome of their investments into vocational training specifically the employment creation and the poverty alleviation aspects of the impact. While there is no rule for standardizing tracer studies however there are similarities across the tracer studies particularly in relation to analysis of how VET or HED graduates fair in the labour market. Other studies that are done in developing countries are by international NGO's based mainly in the North.

### **3.6 Conclusion**

The literature review has sought to identify critical trends in the literature on tracer studies and sought through a few examples to show the processes that go into the development of tracer studies within an international and a local context. It has been shown that recent tracer studies in South Africa focus mainly on university graduates and their employment prospects in the labour market. While these studies have made a valuable contribution to our understanding of

'follow up' or destination studies they tend to overlook the intermediary or vocational skills level which is a core component of skills development in South Africa.

The studies reviewed in developed and developing countries are focused on the large scale level of studying the vocational system as a whole and its ability to contribute to better employment prospects for the youth. Logistical challenges of administering surveys and access to ex-students or participants in vocational programmes is still a crucial challenge for conducting tracer studies. There is no single methodology that is effective in conducting a tracer study as both qualitative and quantitative approaches tend to be used and there are limitations with both methodologies. The critical issue is what the research questions of the study are and the objectives it seeks to achieve.

This literature review has identified some lacunae in the literature which the findings of this study seek to occupy. The study contributes to the literature a study of a cohort in training within the South African maritime sector and demonstrates key lessons which are useful for future research in this field which has been identified as a critical driver for South Africa's economic growth. The findings of the study will be critical for programme planning and future allocation of resources within this field. A crucial issue to be considered is the frequency of the tracer study as it can be cohort based through a longitudinal survey or be done as analysis of programme specific interventions.

## **4. Methodology**

### **4.1 Background**

One of the deliverables of this project was to provide an updated database of candidates. TETA provides of all the candidates that had attended the seminars. However, there were a lot of challenges with the database as there no contact details for a large number of candidates; duplications; and consisted of people that did not attend the seminars, i.e., their trips were cancelled. Initially, the SA component consisted of 1 009 candidates, however, after the "clean-up", i.e., removal of duplicates and those that did not attend ("cancelled"), the number decreased to 759. In respect of the Belgian component the number decreased from 357 to 321.

### **4.2 Sampling**

A stratified random sampling technique was be utilised. Stratified sampling is a probability sampling technique where the entire population is divided into different subgroups or strata, and final subjects are then randomly selected proportionally from the different subgroups. The candidates will therefore be divided into two groups (namely the SA component and the Belgian component) and were randomly selected from those subgroups. The sample frame for candidates for the period under review is around 1 077 (322 from Belgium and 755 from SA). Utilising a 95% confidence level with 5% margin of error, the sample size for the SA component amounted to 255, whilst that of the Belgian component amounted to 175. The target of 175 was exceeded, with a total of 180 candidates being reached for the Belgian component.

## 4.3 Data collection

### 4.3.1 Method

A mix of qualitative and quantitative data collection methods was used in order to gain the most comprehensive and substantive conclusions. The research will employ the following data collection method(s) and sources:

- a) Face-to-face interviews,
- b) Telephonic interviews,
- c) Focus group session;
- d) Reports from BTC and TETA, including the database of candidates
- e) Emailed questionnaires; and
- f) Online questionnaire through the Survey Monkey tool.

Employers were contacted to determine the relevance of the seminars to industry needs. Family members were also contacted to determine whether there was an increase in economic contribution as a result of perceived better job prospects. A list of questions was also drawn up for this purpose. A snowball technique (chain sampling) where the respondents we made contact with referred us to or gave us information on other candidates they were in contact with. This became very useful as some people on the sample had no contact details.

## 5. Skills development within the SA maritime sector

The maritime sector consists of seven clusters, that is, three primary and four secondary industry clusters (SA Maritime Safety Authority, 2011). The primary industry clusters include all those maritime industries that represent the economic foundation of the sector, and these are:

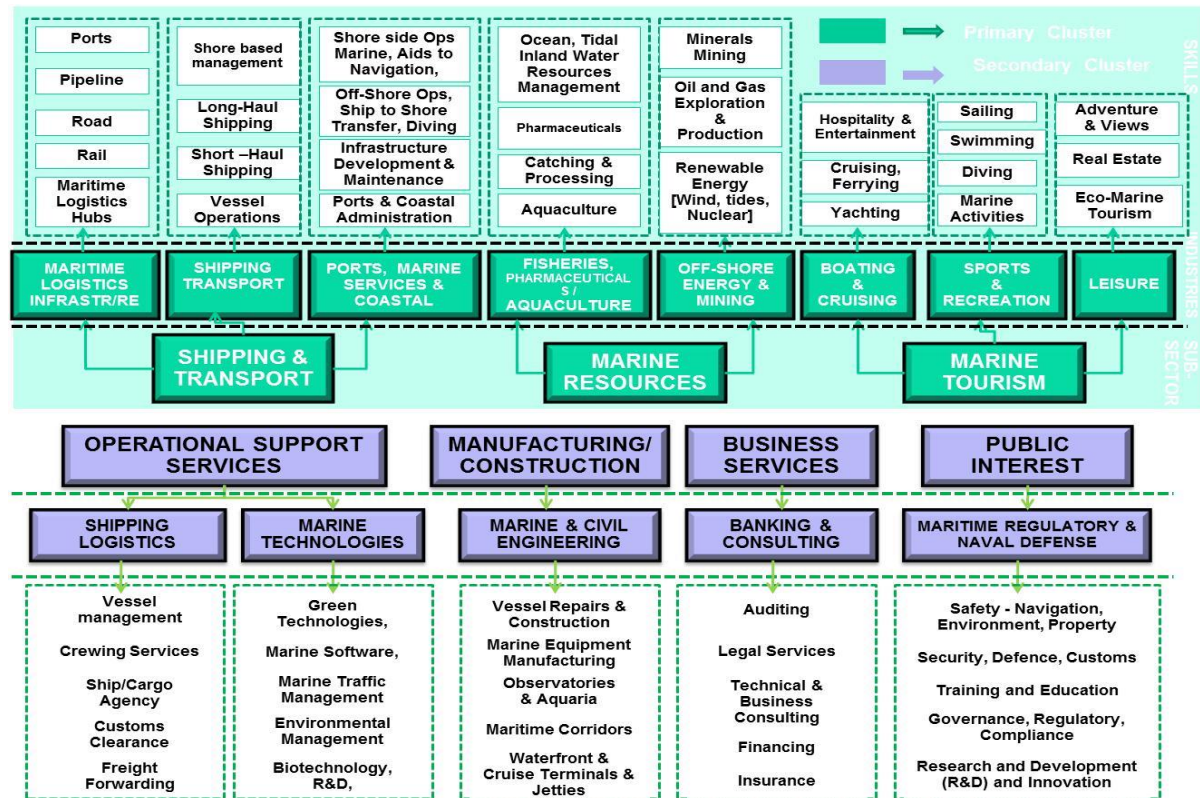
- **Shipping and transport** – maritime logistics infrastructure, shipping transport and ports, marine services and coastal administration;
- **Marine resources** – fishing; pharmaceuticals and aquaculture; as well as off-shore energy and mining; and
- **Marine tourism** – boating and cruising, sports and recreation and leisure.

The four secondary industry clusters include:

- **Operational support services** – includes shipping logistics and marine technologies;
- **Manufacturing and construction** – includes civil engineering; marine manufacturing (ship/boat building, component manufacturing); ship repair and maintenance (ship modifications, oil and gas structures, etc.)
- **Business services** – maritime specialised professionals within the banking, legal, insurance, ICT and consulting domain;
- **The public interest cluster** – public maritime functions and services (maritime regulatory and naval defence); enforcement; emergency and disaster management).

**Figure 1** below highlights the type of skills required in each of the maritime clusters. The Maritime and Logistics training programme offered by APEC addresses the skills required within the Shipping and Transport Cluster.

**Figure 1 – Maritime Sector Skills Landscape**



Source: SA Maritime Safety Authority

South Africa faces a skills shortage challenge characterised by a mismatch between the available pool of employees and market demand. It has been reported that the skills development challenges in SA have resulted from the weakness in the education and training system, beginning from early childhood development right through the school and post-school system and ongoing workplace professional development.

The SA government has put in place a range of strategies to address the skills challenge. These include the National Skills Development Strategy (NSDS) which aims to enhance skills development and address employability challenges in the country. Sector Education and Training Authorities (SETAs) have played a considerable role in funding training in order to meet the objectives set out by the NSDS. Shortages of skills and the need for skills development have been highlighted in a number of industries including the maritime sector. The demand and supply of skills in the maritime sector is considered in terms of three occupational categories, namely:

- Seafarers, technically skilled occupations (artisans, engineers and technicians),
- Management and technical professionals – which are in demand in each of the primary maritime subsectors; and
- Occupations within the operational support services (stevedoring, forwarding and clearing, port operations, ship chandelling etc.).

Efforts have been made to improve skills in the maritime sector through a number of initiatives by a number of stakeholders including Department of Higher Education and Training (DHET), SA Maritime Safety Authority (SAMSA), Transnet, Department of Transport (DOT), TETA and other

players in the maritime industry. There is, however, still a need to invest in skills development to ensure that the relevant skills are available to service the ocean economy and ensure maximum growth of the sector. The Department of Environmental Affairs (DEA) conducted a study in 2013 on the economic potential of South Africa's oceans, which found that jobs linked to the ocean economy could rise to between 800 000 and 1 000 000 by 2033, more than double the level recorded in 2010 (316 000). The findings led to launch of the ocean economy leg of Operation Phakisa aimed at unlocking growth and delivery in the ocean economy. Operation Phakisa is aimed at fast-tracking the delivery of the priorities that have been outlined in the National Development Plan and is based on the Big Fast Results methodology adopted by the Malaysian government. In respect of skills development, the Operation Phakisa ocean economy discussions labs held in July 2014 agreed on a number of initiatives aimed at capacity building for the sector.

Maritime training standards in SA are regulated in terms of the International Maritime Organisation (IMO) Convention – Standards for Training Certification and Watchkeeping (STCW) 95 as amended – and SA is a signatory to that Convention. There are, however, other operational categories within the maritime sector that fall outside the STCW framework and these include all the management, professional and other operational support occupations in the maritime industry which are generated and regulated in terms of normal education and training system.

There are a number of institutions that provide maritime related training in SA, at basic education level and at tertiary education level. One of those institutions is the Transnet Maritime School of Excellence (MSoE) which is based in Durban. The School supplies maritime skills for Transnet and the broader industry, the country and the Southern African region through collaboration with various local and international players. The MSoE offers training in Marine Operations, Terminal Operations, Port Management, Port Engineering and seafaring programmes such as the Marine Cadet Programme (Deck), Marine Cadet Programme (Engineering), Cargo Coordinators programme, and the Lifting Operators programme.

Education and skills development are critical to the growth of the maritime sector. There are a number of institutions offering various maritime studies for seafarers and non-seafarers. In addition to the skills development initiatives in the sector, a regional maritime institute, the SA International Maritime Institute (SAIMI), was launched in 2014 to coordinate maritime education and training in SA (and Southern Africa). SAIMI is based at the Nelson Mandela Metropolitan University (NMMU) and is expected to become the knowledge base for the maritime sector with the expertise of specialists located in participating institutions.

## **6. The APEC training programme**

APEC offers 2-week training programmes in Belgium and 2-3 day seminars in SA. The minimum amount of participants is 15 and for interactive sessions such as case studies and workshops, groups of between 20 and 30 participants are recommended. The main requirements for attending are:

- Sufficient knowledge of the English (or French depending on the APEC course) language.
- It is recommended that the candidates be employed in the maritime sector, preferably in the sector which is in line with the seminar (e.g. Port Logistics).

- Basic knowledge about the subject matter is recommended.

The cost per candidate is €3.000 which includes lectures, site visits, study materials, accommodation, local transport and APEC guidance. This, however, excludes airfares. A lower fee can be charged depending on the size of the group for the tailor-made courses.

The 2-week training programme in Belgium focuses on the following areas:

**a) Tasks and Responsibilities of Forwarders, Agencies and Shipping Lines**

This seminar covers topics such as, amongst others, the impact of intermodal traffic on port operations; incoterms/conditions contracts of sale and dispute points; port security implementation; carrier's responsibilities for different transport modes claims procedures/time bars; regulations on transport of dangerous goods on board of ships; screening of seafarers; the duties of a ship owner in the field of security; responsibility and liability of shipping lines in case of collision in port area; IT solutions for shipowners and shipping agencies and shipping agency in practice. The seminar also includes, amongst others, visits to port of Zeebrugge, the Vessel Traffic System and Coordination Centre, and specialised warehouses for dangerous & hazardous cargoes storage and handling.

**b) Port Management**

Topics covered include, amongst others, Antwerp Port Master planning; globalisation and its impact to port strategy; duties and tasks of a Harbour Master; port regulations; port community system of Antwerp; training of port labour; Veterinarian inspection in the port; Concessions management in the port; port statistics and its implementation in decision-making; meeting customer expectations; link between IT developments and operational security; port promotion strategy. Visits to a dredging vessel, Port Center Lillo; port of Antwerp; Port of Ghent; and Port of Zeebrugge, amongst others are included.

**c) Port Security**

The topics under this area include the Vessel Traffic Management Information System; Automatic Identification System; the loading, unloading and management of hazardous cargo; the role of maritime and river police; illegal immigrants and stowaways; fight against drug smuggling in cooperation with the customs; risk analysis and threat assessment; port state control and ship security; port security in the port of Antwerp (provocations, threats, etc.); flow of outgoing/incoming cargo; enhancement of quality of border control. Site visits include port of Zeebrugge and visit and demonstration of the container scanner

**d) Inland Waterways Transportation**

Topics covered include intermodal connections, focused on inland waterways transportation; the responsibilities, operational budget and the management area of the river police; waterway transport promotion and marketing; waterways under the administration of Waterways; hydrodynamic and morphological investigations to improve navigation on the rivers; promotion, evolution and problems of inland waterways transport; treaties on the navigation on international rivers; and bare handling organisation on deep sea terminals. Site visits include the Port of Ghenk and its barge terminal; Port of Liège and visit to the port area; and the hydraulic laboratory

**e) Port Engineering**



Topics covered include the recent trends in port engineering; port masterplanning and the decision factors for port renovation; port hydrodynamics (hydraulic and hydrodynamic research, scale and numerical modelling); construction technique of breakwaters and gas terminals in the Port of Zeebrugge; dredging operations and dredging technologies; estuarine and river geomorphology; coastal geomorphology; maintenance dredging in port area and treatment methods of dredged materials; the specific characters of the warehouses for hazardous cargoes; port inland access (rail, road, inland, waterways and pipe line). Visits include the Deurganck Terminal; Euroports; Port of Zeebrugge; dockyard; and the dredging operations on the river Scheldt.

#### **f) Port Environmental Policy and Technology**

Focus areas under this seminar include environmental friendly dredging techniques; oil spill fighting and cleaning; infrastructure projects and nature conservation; shipping environmental challenges; technical and environmental requirements of warehouses; regulations on transport of dangerous goods; waste Management in Flemish seaports; organisation and handling of emergency cases in a port; dangerous and hazardous cargo handling rules and regulation; and IT application for ship's waste and dangerous goods. Site visits include the Port of Ghent; TOTAL; BASF plant and tank storage; and the Port Center Lillo.

#### **g) Port Logistics**

The seminar includes topics such as the principles and methods of port masterplanning and logistics planning; modal split policies; warehousing and distribution of tobacco; customs policy; stimulation for port logistics; the port as a logistic platform; logistics services of Euroports Terminal Antwerp for industrial minerals; key developments in road haulage in Western Europe; logistics for heavy cargoes: experiences of Heavy International Services; and warehouse costing and optimisation. Site visits include the Port Centre Lillo; the Euroports Terminals Leftbank: logistics for forest products; Antwerp International Terminal and terminal and warehouses of Euroports Terminal Antwerp

#### **h) Container Terminal Management**

Topics covered include international developments in container shipping; the impact of intermodal transport on container operations; quay infrastructure and yard planning; port Masterplanning; introduction to the financing of a major port investment project; management of an integrated railway terminal for maritime containers; capacity planning and balance of different container terminals within the same group; container terminal management. Site visits include the combined railway terminal Inter Ferry Boats; multipurpose terminal (Katoennatie); and Port of Zeebrugge.

#### **i) Customs, Taxes and Trade Affairs**

This area looks at, amongst others, the European Customs Legislation; Europe and Modernized Border Management; Customs procedures and air cargo; customs procedures in the hinterland; European customs legislation and Juridical issues. Site visits include visit to Zeebrugge port; visit to The Maritime Information Centre; and the visit to the GIP (scanner).

#### **j) IT and EDI in Port Business**

This area includes topics such as project management for IT; IT systems for international road transportation; operational truck handling on container terminals; geographical information

system and its application on port spatial planning; EDI systems for port business; IT solutions for ports and cargo terminals; container terminal management software systems. Site visits include the container scanner; Port of Zeebrugge and a visit to a combined terminal.

#### **k) Break Bulk Cargo**

Topics covered include port view on breakbulk traffic; ways of decreasing costs through increasing productivity and operational optimisation; lashing and securing of breakbulk cargo; role of the interested parties in the breakbulk cargo flow; heavy load and project cargo; the policy and planning for logistics in the Port of Ghent; insurance, responsibilities, and liabilities; handling and storage of general cargo/forest products. Site visits include the coil terminal – steel terminal-general Cargo terminal; Port of Zeebrugge; and a combined terminal.

#### **l) Dredging technologies**

Topics covered in this seminar include functioning and field of application – trends in design and new build; working principles of a cutter suction dredger; use and application field of a cutter suction dredger; integrated design of hopper dredgers; new developments for hopper dredgers; new developments for cutter dredgers; the importance of hydronamic and morphological investigations to improve navigation; environmental regulations on dredging; environmental aspects of dredging and disposal. Site visits include the technical visit to a modern hopper dredger during maintenance dredging; guided visit to the Seamen's Centre in Zeebrugge; technical visit to hopper dredger simulator

#### **m) Nautical Accessibility & Maritime Traffic Management**

Topics in this area include the role of the agency for Maritime and Coastal Services in the port area; introduction to hydrographical soundings and nautical charts; and hydrography – presentations on board of a hydrographic vessel; introduction to hydrographical soundings and nautical charts; and nautical management on the river Scheldt. The visits include the Port of Zeebrugge; Marina at the Belgian Coast; and the Coast Guard.

#### **n) Legal aspects in port operations and trade**

Topics include ports in Europe: status, regime, differences, tasks, targets; Ports of Refuge: level of Ports' hospitality, responsibility, obligation in providing refuge etc.; logistics: tank storage; arrest on vessels - Bill of lading (transport document, international commercial document, legal document) etc.; and limitation of liability in the port area. Site visits include, amongst others, the Port of Zeebrugge; World Customs Organisation Visit to the European Parliament

Changes can be made to the programme outline, depending on availability of APEC partners in both private and public sector. The content is also revised in line with the new developments. The programme is not officially accredited, but is supported by the Flemish and Antwerp maritime authorities. Upon completion of the seminar, a certificate of attendance, provided that the participant attends more than 75% of the course, will be issued.

### **7. Selection and recruitment process**

One of the objectives of the study is to evaluate the existing candidate recruitment, evaluation and selection and suggest a better model if required. **Table 1** below depicts the selection and recruitment processes for the SA and Belgium components.

Table 1 – Selection and recruitment process for SA and Belgium

Process for Belgium seminars	Process for SA seminars
1. APEC provides a list of available seminars	Needs Analysis - request for seminars in SA based on needs analysis in line with the Individual Development Plans
2. SA companies/authorities prepares a funding proposal for approval by DGD	Design tailor made seminars - APEC proposes possible courses upon request of the SA companies/authorities
3. APEC initiates the advertisements and requests applications for selected seminars.	Pre-Approval of budget
4. SA companies/authorities select the seminars according to the responses received from the advertisement.	Selection of participants for each individual course. Beneficiaries submit a letter containing the list of selected participants and details of the selected course
5. Beneficiary institution OR individual from a private organization, submits a letter containing the list of selected participants and details of the selected course.	Submission of the selected files to BTC
6. For customised course, SA companies/authorities will review the course content in collaboration with the beneficiaries and ensures they are customized to the actual requirements of the requesting organization (SA companies/authorities), <b>however this does not apply for standard seminars</b>	Review of the applications by the facilitators from APEC
7. After vetting and compliance measures BTCSAF submits completed Application Forms, CVs and copies of passports to APEC for approval of enrolment.	Admission to be confirmed by APEC
8. APEC pre-approves applications	Confirmation of scholarship for the seminar in SA

The Belgian component appears to be more supply-driven, with APEC providing information of available seminars and requesting applications from interested parties. There is an element of demand aspects in instances where organisations request for customised courses. The SA component is more demand driven, with the beneficiary organisations request for seminars in SA based on needs analysis in line with the Individual Development Plans. Understanding the fact that the standard seminars in Belgian component caters for participants from developing countries, it would be useful to also link the attendance to individual development plans to ensure relevance and that participants will be able to use the knowledge gained in their respective work environments.

There is no clear picture of how participants are selected – is the assessment linked to relevance or just an area of interest as expressed by the applicant? Feedback received, which will be discussed in the next section, indicates that some candidates attended seminars that were not linked to their units so they were unable to apply the knowledge acquired. Some indicated that they were placed in irrelevant seminars due to limited spaces on the seminars they had wished to attend which were directly linked to their work. So it is recommended that the selection process for the Belgian component should also be linked to individual development plans and relevance to the current working environment.

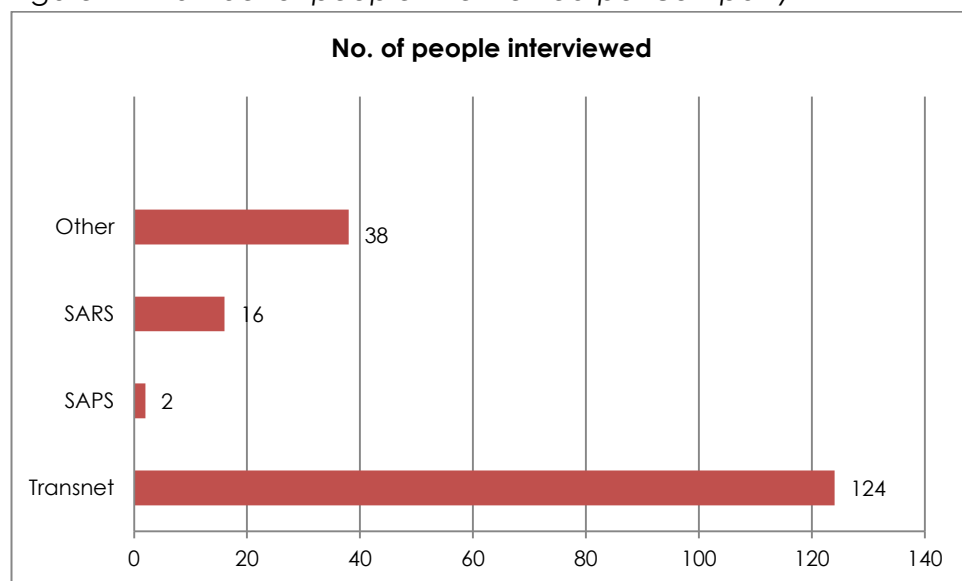
## 8. Results

### 8.1 Seminars in Belgium

#### 8.1.1 Breakdown of attendance by company and province

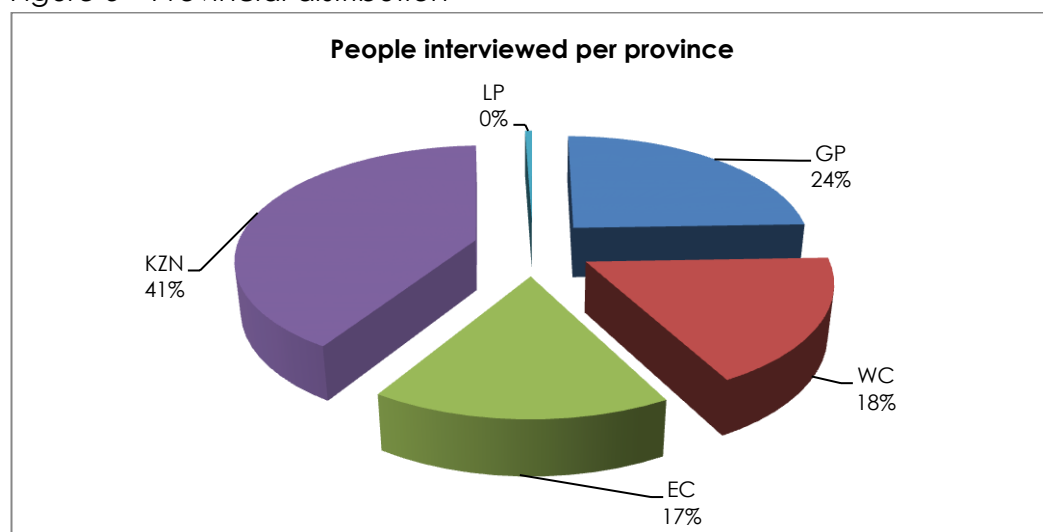
A total of 180 candidates within the Belgian component were interviewed. The breakdown per organisation is illustrated in **Figure 2** below. The largest number of people interviewed was from Transnet, with 124 candidates. This was followed by a group of candidates from other organisations such as Woolworths, SA Bulk, BidFreight Port Operations, PD Naidoo & Associates, Manuchar South Africa, FPT Group, Department of Transport etc.

Figure 2 – Number of people interviewed per company



The largest number of people interviewed was in KwaZulu-Natal (KZN) at 41% followed by Gauteng at 24% (**Figure 3**). One person in Limpopo province, who is based at the border post, was interviewed.

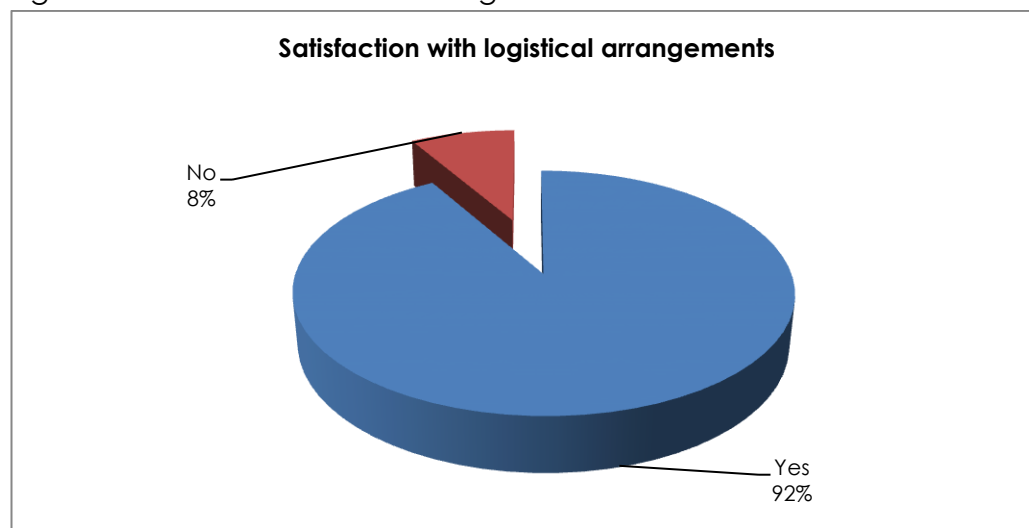
Figure 3 – Provincial distribution



### 8.1.2 Logistical arrangements

Candidates were requested to provide some perspectives on the logistical arrangements for the trip to Belgium. Out of the 180 candidates interviewed, 8% expressed dissatisfaction with way the logistics for the trip were handled (**Figure 4**). It should be noted, however, that some may not have ticked the “no” box, but when asked to suggest any improvements in respect of logistical arrangements, they expressed concerns similar those raised by 8% of the candidates.

Figure 4 – Level of satisfaction: Logistics



The following concerns were raised with regards to the logistical arrangements for the trip:

- Accommodation in some cases was not up to standard (both locally<sup>1</sup> and internationally);
- There was no proper communication on travelling arrangements, VISAs were not arranged timeously<sup>2</sup>;
- Travelling processes were not clear – there was no communication from the travel agent as a result some of the tickets were cancelled.
- Things on the TETA side were not well organised – there was a delay in confirmation of flight details (in some cases confirmation was received on the day they were supposed to leave). Furthermore, the person responsible for organising from the TETA side was not reachable at times.
- In some instances there was no accommodation or transfers organised, as a result organisations had to pay for these.
- No flexibility allowed in flight bookings – some missed the connecting flights due to long queues.
- Direct flight should be considered – some had stop-overs of up to 8 hours.

<sup>1</sup> For those who came from other provinces.

<sup>2</sup> VISA collection – some were told that the Consulate would be 2 minutes away from Gautrain station but that turned out not to be the case and had to walk with luggage for quite a distance. At the Consulate they waited about 2 hours before they were attended to. They suggested that transport should be arranged from the station to the Consulate.

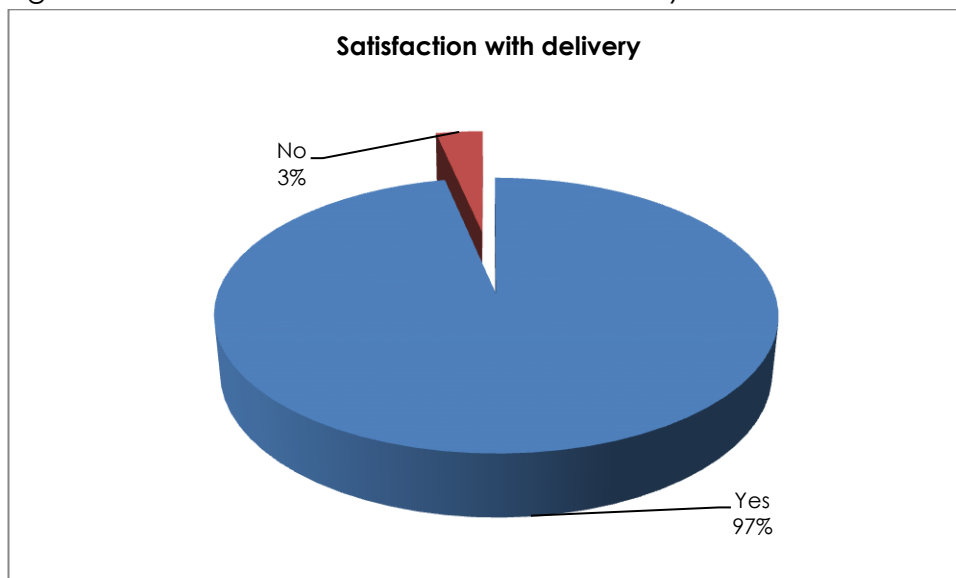
- Logistics in terms of who should attend are centrally allocated at Transnet which results in limited numbers. More people need to be exposed to the Belgium seminars.

Candidates were of the view therefore that the logistical processes need to be improved to ensure better participation and exposure. The bulk of the candidates interviewed did not express much concern about the logistics; there were a few instances where some were not happy about the kind of food that was served during the two-week period. Some, however, were more understanding, indicating that even though this was a cause for concern, it was perhaps the kind of food that the Belgians were accustomed to and it would be difficult to satisfy all the needs of candidates from different countries.

### 8.1.3 Mode of delivery

In terms of delivery, candidates were asked to express their views with respect to their level of satisfaction with the way the seminar was delivered. Of the total number of candidates that were interviewed, 97% indicated that they were happy with the mode of delivery, especially the practical aspects as they had an opportunity to explore what was spoken about during the theoretical aspects of the seminar (**Figure 5**).

*Figure 5 – Level of satisfaction: mode of delivery*



The following concerns, however, were raised:

- It would have been better if there were more practical aspects. Special reference was made to the legal aspects of the seminar.
- Some lecturers were not well prepared and others struggled with the English language. Others were just experts, with the inability to convey the message or teach. Some lectures were just reading from the notes with no interaction at all. Some had no sufficient subject knowledge and could not answer questions. Others need to keep up to date with changing world technology.
- The environmental aspects were a little bit confusing, which made those aspects irrelevant at times.

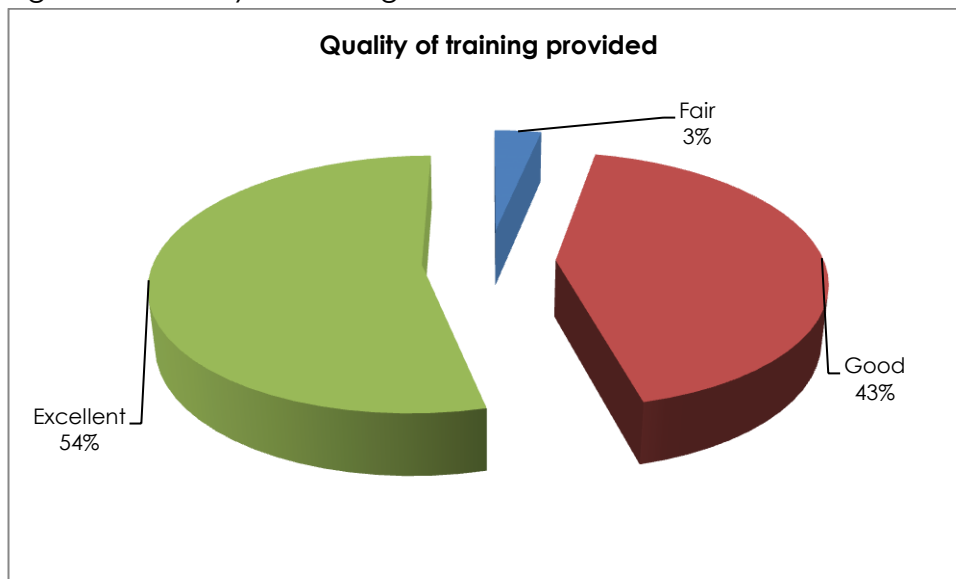
- There was a limitation of visuals from one of the lectures, which made some participants less interested.
- There was too much detail and not enough time to take notes in some areas. There was a lot of information provided but all this was compressed into 2 weeks, which was not sufficient to grasp all the issues and ask questions. There was less interaction with the presenters and in some instances they were only allowed to ask no more than 2 questions.
- There was insufficient time to explore processes at terminals – it was more like a lecture in the terminal. The candidates were more interested in seeing the port handling processes which they did not get to fully explore.
- Some felt that the tours were undertaken for the sake of going out, with some sites not adding much value, whilst others did to a certain extent. The vessel traffic centre was also not accessible.
- In certain instances, the bus did not stop and people were not allowed to get out of the bus and were told this was done for insurance reasons. As a result they were only allowed to see some sites from a distance.
- Some of the delegates from the other countries were not conversant in English which sometimes delayed the class process.

On the other hand, the bulk of the candidates were of the view that the lecturers were highly skilled professionals who knew the subject matter very well and were able to interact with the programme and the content well. Their knowledge was enhanced especially the by the practical aspects of the training. The seminar was found to be very informative. Some felt that time-keeping was excellent, however there was not enough time allocated between tours and lectures. The following suggestions were therefore made:

- There should be a platform where the different students from various countries can make presentations on how things are done in their home countries;
- There should be extended visits to dry bulk terminals.
- More people should be allocated to deal with practical components so that candidates can have more insight into the different processes.
- The seminars should be changed into formal training that provides some qualification and there should be some form of assessment during the course. Attending these seminars does not do much for the CVs of the candidates.
- Candidates should be grouped according to area of responsibility, e.g., engineers, SCM, environmentalists.
- The timetable was very compact, the driver and facilitator (tour guides) should be more flexible (in some instances they left other people behind).
- There should be less focus on theory and more on the practical aspects.
- The seminar programme and notes should be sent in advance in order for them to prepare for the course.

In terms of the quality of training provided, about 54% of the candidates felt that it was excellent, 43% felt it was of good, whilst the remaining 3% were of the view that it was just fair (**Figure 6**).

Figure 6 – Quality of training

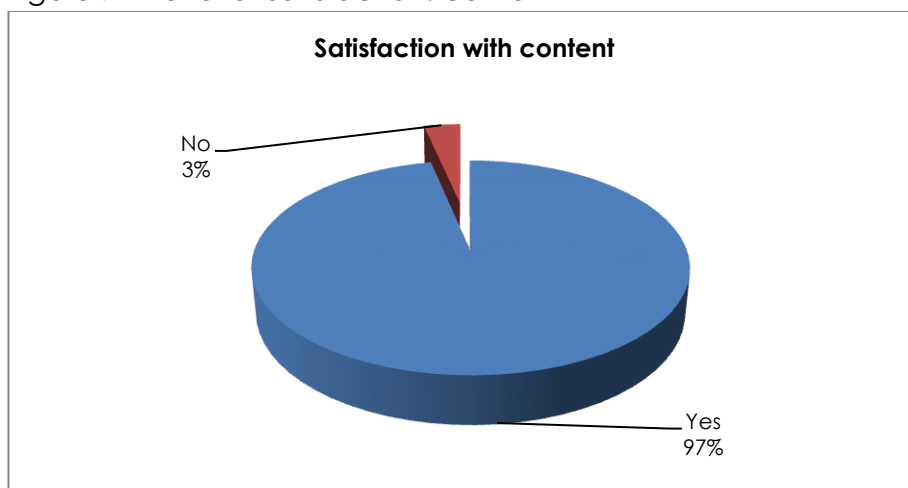


Overall the candidates were satisfied with the mode of delivery, that is, the mixture of theory and practical as this provided them with insights into the Belgium processes. The issue of this intervention being converted into a proper qualification came out very strongly as this would contribute largely to their career progression. One of the managers, speaking from an employer perspective, indicated that he would not been keen on sending his staff to Belgium as this was not an accredited course which led to a proper qualification which would enhance career progression. The issue of limited time to fully explore processes and interact with the people that work with those processes was also highlighted.

#### 8.1.4 Seminar content

Candidates were requested to express their views on the content that was covered during the seminars. Of the 180 candidates interviewed, 174 (97%) indicated that they were happy with the content although a large part of the content was not fully applicable to the SA environment (**Figure 7**).

Figure 7 – Level of satisfaction: content





The following issues were raised with regards to the content:

- The seminar did not add much value in respect of the health aspects, more especially the lack of information on health management of employees working in the port. Site visits should include health management areas so as to compare equipment and procedures. Health processes are not followed accordingly and there appeared to be no compliance with legal aspects.
- The programme content has not changed for more than 10 years.
- There are no occupational health services in their ports. Firefighting material was not well packaged and did not cover everything.
- More focus was on dredging and less on port terminal operations. Site visits should also include port operations and not only dredging.
- Some felt the content was too high level with no basics covered.
- Information provided was too broad, more in-depth information is required.
- Content relevant in EU context and not the SA / African context (e.g. legalities, rules, regulations, customs, VAT etc.) which made some aspects of the seminars irrelevant.
- Some of the content offered nothing new and served more as a refresher (Task and Responsibilities seminar). There is a need to match content to one's needs to avoid repetition. Even for aspects of the legal systems, some candidates were already familiar with even though those aspects were from an EU perspective.
- More access to port users themselves is required, in particular interactions with planning authorities.
- Content should also cover future trends and international best practices. No benchmarking done with ports in other countries, lessons learnt and current trends.
- Layout at the port was not the same as what was indicated during the theoretical aspects of the seminar (Container terminal seminar).
- Labour relations were not covered in Port Management.

The following suggestions were made:

- Proper guidelines should be made visible to everyone entering and exiting the operational areas – the health of employees should become a priority. Some elements (Health and Safety seminar) focused more on labour relations, so there needs to be a shift away from labour issues and focus more on Health and Safety and best practices.
- Workshops with users and in-depth discussions with experts on how ports can create value in the supply chain should be considered.
- More information on environmental aspects, e.g. oil leaks or spillages in water should be considered.
- The study material needs to improve and be aligned with the world trade and technology.

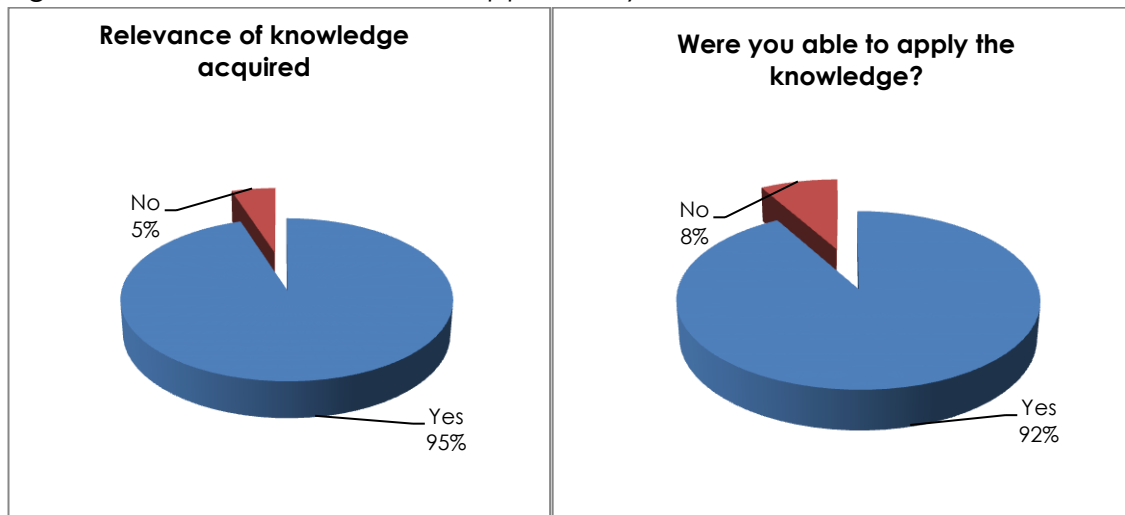
- There should more coverage on the legal side – issues of indemnity and liability, and more in-depth coverage of case studies.
- The course content should focus more on the technical details for implementation of systems.
- Contract management with regards to dredging should be considered.
- More detail in Maritime Law and Hazardous aspects is required (Task and Responsibilities course).
- Sea port designs, IT and security logistics should also be incorporated into the seminar.
- Port logistics should be included into Port Management.
- More specific examples are needed for port logistics and concessioning process.
- More coastal ports engineering should be included.
- Perspectives from maritime authorities should be included.
- Candidates should be given an opportunity to outline their areas of interest prior to attending so that these can be included in the content.
- In some aspects, SA was more advanced than Belgium so there should be a platform for sharing best practices. For instance in terms of ISO management systems, Belgium was not yet there.

The general view was that the seminars covered interesting aspects although some of the issues covered would not be applicable within the SA context. For instance ports in Belgium are river-based while in SA these are coastal based, therefore some of the aspects covered in this regard were not so relevant. Furthermore, the legal and regulatory aspects are different so lessons learnt in Belgium were not easily implementable. In general, Antwerp is more advanced in certain aspects and the information gathered during the seminars broadened the knowledge base of the bulk of attendees.

#### **8.1.5 Relevance and applicability**

Candidates were requested to indicate whether the knowledge acquired during the seminars was relevant to their work environment and whether they were able to apply the skills and knowledge acquired during the seminars. Responses received indicate that 95% of the interviewees found the knowledge acquired was relevant (**Figure 8**), whilst about 92% of the respondents indicated that they were able to apply the skills and knowledge acquired in their work activities (**Figure 9**).

Figure 8 and 9 – Relevance and applicability



In terms of relevance, the following responses were received:

- It provided better understanding of logistical processes, cargo movement and the international trade related to customs and port operations which is part of the daily tasks.
- The training assisted in enforcing many changes in processing revenue from various inland ports in and around SA.
- It provided more insights on safety management in ports environment and the levels of compliance required – this allowed for benchmarking with the international port system.
- It was relevant to a lesser scale as their health and safety was not fully functional and their environment is different to SA's. SA is more advanced in this regard.
- It was directly relevant to the work environment but expanded one's knowledge.
- It provided complete supply chain solutions in respect of port and rail.
- It provided exposure to global practices and new ideas.
- It provided an edge in negotiation.
- It brought more understanding of the importance of environmental issues and applied technologies especially at the port.
- It provided better factual understanding, confidence to implement projects and the ability to disqualify false statements.
- Seeing world class ports in operation, the manner they think and do things, gave one better insight on rolling out more creative initiatives in local ports.

Most responses in the regard were quite similar as a large number of candidates indicated that the seminars were relevant in that they provided them with insights into how port systems work internationally, which allowed for benchmarking and implementation of similar systems and processes locally to ensure efficiency.

In terms of applicability, the candidates indicated that:

- The seminars assisted those that are new in their positions to see what is expected from them and to familiarise themselves about their job outputs.

- The experience influenced some to bring new systems into the workplace e.g. putting a panel beater shop in the port so that when the cars that are transported onto the ships get damaged, they can be repaired before loading onto the ships. In terms of policing, it was adapted into the maritime environment in terms of safety and security and relevant systems were therefore implemented.
- IT systems were improved to deal with of vessel traffic.
- Some indicated that they were in the process of procuring scanners which they saw in Belgium. Some companies bought machines for discharging and loading of ships which has improved turnaround times.
- Implementation of systems enabled cost-saving, introduction of efficiency models, and provided input into strategic planning so as to align local to global operations.
- Knowledge gained allowed for benchmarking the process of risk assessments, process flow stakeholder engagements and environmental impact.
- Lessons learned have enabled safe execution of activities to avoid incidents or injuries.
- Systems now work faster as the turnaround time of trucks has decreased from 20 minutes to 15 minutes and there is less traffic.
- Efficiency has improved, e.g., use of bicycles for site visits which has proved to be much faster.
- The Belgian experience has taught some to not treat operators as just renters /service providers but as part of the organisational network. This enables the organisation to identify and address challenges faster.
- Projects have been implemented using Bill of Lading (Contract of Carriage/Ownership).
- It has assisted with planning, maintenance and business development and understanding of core business.
- It assisted with enforcing changes in respect of processing revenue, optimisation of resources, and increasing the potential to accommodate more vessels at the port.
- Some indicated that they were unable to apply the knowledge acquired because:
  - There are no river ports in SA so the logistics are not the same and therefore the knowledge could not be applied.
  - The knowledge was not relevant for their portfolio or unit.
  - The experience proved that SA was way ahead in certain health and safety than Belgium.
  - Legislative aspects were different.
  - Support for policy implementation was lacking as some were not based at the corporate office where policy is crafted and reviewed. It was therefore difficult to apply the knowledge outside SA policies.
  - Some aspects require input from Executive level in order to implement; it would have been easier to implement if we were part of senior management.

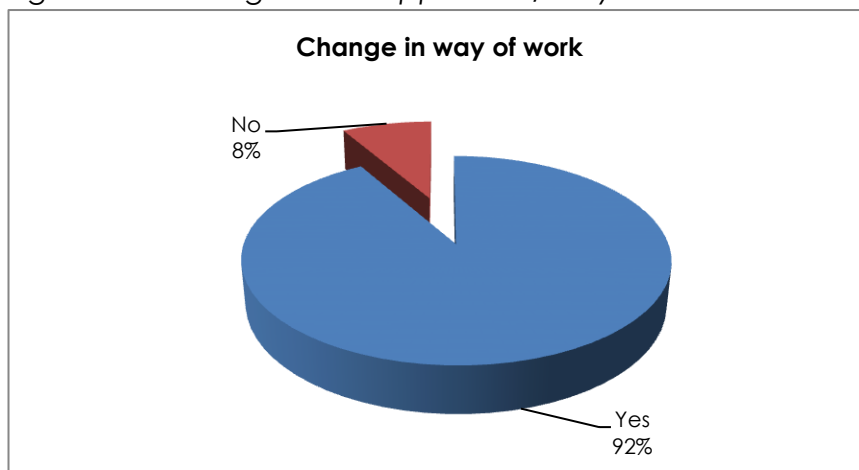
- There were challenges of insecurity from senior personnel that led to threats of being fired from the organisation. However efficiency aspects and best practices were drawn from the seminars.
- Not much was learnt as most aspects already formed part of the current work functions.
- Belgium uses a computerised system but the challenge locally was that the some drivers are illiterate and do not know how to use laptops / computers.
- Certain things could not be implemented due to budgetary implications.

Generally, the knowledge and skills learned in Belgium provided attendees with better perspectives on international functions. Some were able to apply the knowledge, with new systems being introduced while some were of the view that although it was good to know how the international market works but the knowledge was not relevant for their work environment.

#### 8.1.6 Change in the way of work

Candidates were asked whether the knowledge acquired resulted in any change or approach to the way they performed their functions. Of the 180 candidates interviewed, 92% indicated that their approach had changed (**Figure 10**).

Figure 10 – Change in the approach / way of work



Candidates indicated that as a result of attending the seminars they were able to:

- Interface unit systems and other requirements with those of relevant stakeholders.
- Work in harmony with high level of customer satisfaction.
- Improve efficiency through turnaround times and clear all bottlenecks in the port.
- Improve technologies and infrastructure so as to meet the global standards.
- Improve business technology flow or core business by avoiding delays in the harbour; implement approaches to avoid network distraction by the weather; clear all bottlenecks / traffic jam through ICT systems.
- Better plan and schedule processes; improve performance.
- Change thinking on project execution and presentation of projects to the market. Participate more effectively in projects.

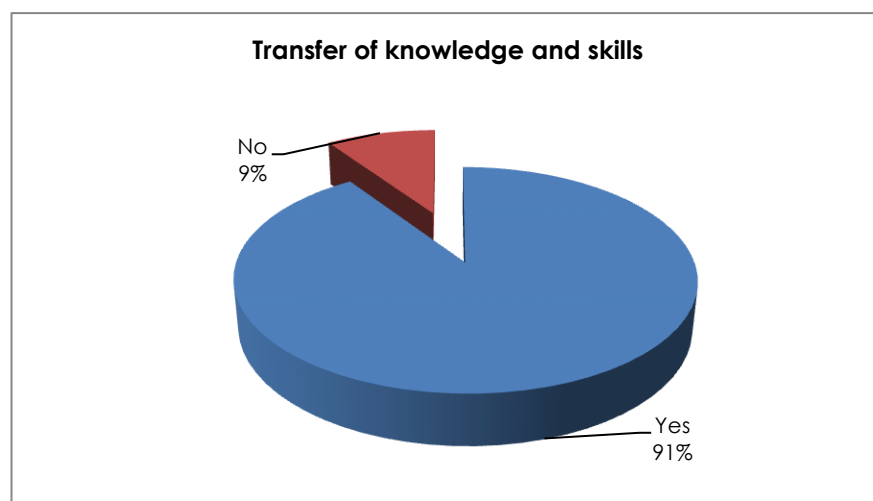
- Think more out of the box; solve problems.
- Improved communication skills as well as enable them to challenge decisions made, and seek best solutions.
- Constantly benchmark and align to international practices.
- Get rid of silo mentality and work with operators.
- Ensure integration within different organisational units.
- Think more globally and be more dynamic, and have confidence in performing tasks.
- Strengthen stakeholder relations in the port environment.
- Manage costs more efficiently; improved turnaround times, efficiency.
- Better understand sectoral requirements.
- Clear bottlenecks through implementation of systems.
- Have a better understanding of value-add processes; better insights on procurement, operations, distribution, increased productivity.
- Restructure staff to avoid double handling.
- Negotiate from a position of strength.
- Look at continuous improvement strategies and benchmarking practices
- Be more goal-driven and become analytical thinkers.

The bulk of the candidates indicated that the experience expanded the level of thinking and scope of knowledge which has enabled them to do things differently. Some indicated that they even refer to their notes when performing certain tasks. Some indicated that the experience has encouraged them to study further to broaden their knowledge further.

### 8.1.7 Transfer of skills and knowledge

Candidates were requested to indicate whether they were able to transfer the skills and knowledge to their fellow employees – 92% indicated that they were able to (**Figure 11**).

Figure 11 – Transfer of skills



The transfer of knowledge and skills was through:

- Feedback sessions, presentations, EXCO reports, group discussions, delegation of tasks, workshops, on-the-job training, mentoring the interns, website and other systems.
- Policy development forums which also assisted in identifying research needs
- Some instituted interface forums such as the Communities of Practice which included internal staff and operators/service providers

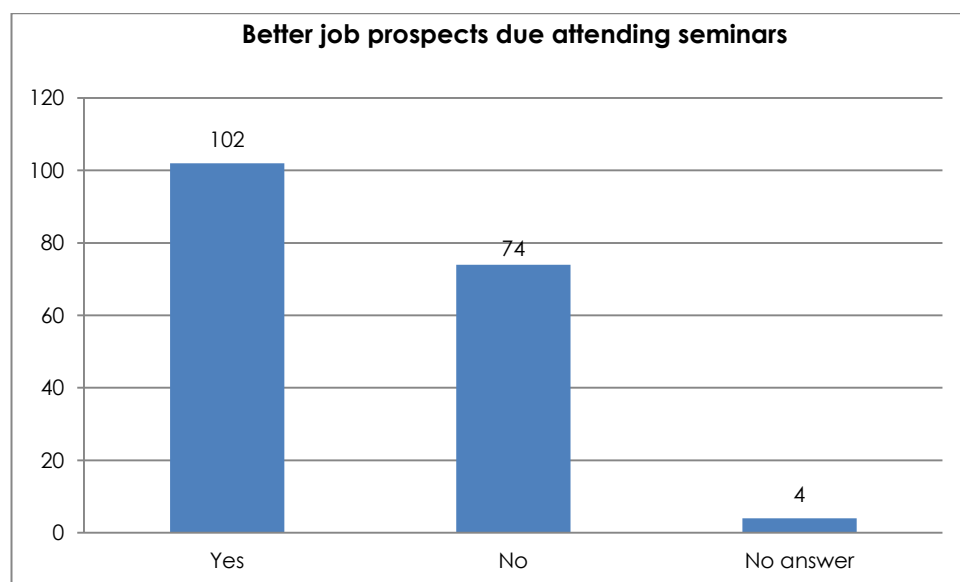
Others indicated that they were unable to share information due to:

- Lack of opportunity or platform for sharing information.
- Knowledge acquired was not relevant and not applicable to work role.
- SA being way ahead of Belgium in certain aspects.
- Working in an area of speciality therefore skills could not be transferred.
- Limited ability to influence strategic thinking through feedback.
- Team members having gone to the training as well.

### 8.1.8 Job prospects

Candidates were requested to indicate whether attending the seminar and the knowledge acquired presented any better job prospects. Of the 180 candidates interviewed, 57% (102 candidates) indicated that there were better prospects at work through promotions, movement to other units, and increase in income, although they could not directly link the experience gained in Belgium to the change in job prospects (**Figure 12**). They indicated that the knowledge acquired could have contributed to a certain extent. The bulk indicated that only the scope of knowledge was expanded (no promotions or income increase).

Figure 12 – Better job prospects



Candidates indicated that as a result of the better job prospects they became more financially stable, gained social respect, and grew professionally. Some maintained the lifestyle they had with a few minor upgrades, e.g. procured a new vehicle or house; more contribution to the household to provide a better life for the family; bought parents a new house etc. Some indicated that with the promotion, they became office-bound which meant that they could spend more time with family (no more shifts). Some indicated that they were held in high

regard socially for going to Belgium but at company level the experience is not given much recognition / not used for career advancement tool although it helps with outputs and operations.

### 8.1.9 Conclusion

The candidates indicated attending the seminars was a great experience which exposed them to the way things worked in the European system. The following general comments were made:

- Selection criteria for the attendees should be revisited. Proper selection should be done according to work relevance. The selection process should be tight as some go to Belgium for fun and sightseeing. Fellow attendees were sitting with their laptops, some making a joke of the course.
- Some people were from the rail environment (TRF) so the focus on ports was not relevant.
- The training should be a qualification with an assessment or exam or portfolio of evidence, and certificates should be issued.
- The training period should be extended as there is a lot to learn within a limited space of time.
- Evaluation of impact should be done soon after the course (perhaps after a year or so) while the content is still fresh on their minds
- The Executive Managers need more exposure as well since they are the ones making decisions.
- There is a perceived abuse of the system by Transnet because of the selection criteria resulting in high numbers of candidates from that organisation include candidates whose work is not in line with some of the courses attended.
- This programme should also be extended to Technical Vocational Education and Training (TVET) College lecturers to broaden their scope on maritime issues.

Generally, the candidates felt that the seminars were good; the Belgian staff was friendly and would love another opportunity to further their knowledge in Belgium. Others felt that there needed to be refresher courses due to the changing environment and technology. The seminars also served as a networking process with candidates from different countries still keeping in touch to compare different practices. Some got to appreciate how far advanced SA was in certain aspects, so there is an opportunity to draw lessons from each side.

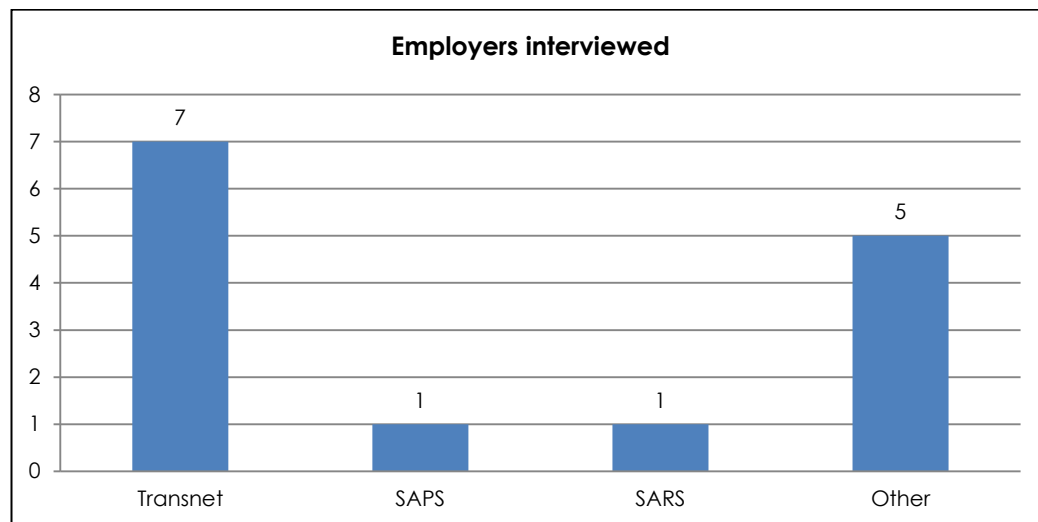
## 9. Employer perspectives (Belgium)

### 9.1 Breakdown of employers interviewed

A total of 14 employers were interviewed to gain some perspectives about the relevance of the seminar to the industry (**Figure 13**). The majority were from Transnet, followed by “other” companies. Only one person was interviewed from SARS as the majority of people that went to Belgium report to her. So she was able to provide a broad perspective on the different seminars attended. Even with Transnet, some had a large number of people that went of different seminars that report to them.



Figure 13 – Breakdown of employers interviewed



## 9.2 Relevance to industry needs

In respect of relevance, the following comments were made:

- Seminars are port oriented which is in line with the business operations, so they bring a global perspective.
- It allows one to understand other operating models and international standards so as to put our systems in line with best practise.
- Looking at the change through the performance of the candidates, it appears to be relevant.
- The HR Unit assessed and recommended that the programme meets the needs of the industry.
- At times it becomes too detailed, however it meets the needs.
- The seminars are not fully relevant because Africa has different systems but there is a need to conform with European standards so as to enhance local standards
- It's only for European Markets and not for South Africa.

## 9.3 Applicability in the work environment

Employers were asked whether the candidates were able to apply the skills and knowledge acquired. The following comments were made:

- They applied the skills and knowledge and are progressing very well in terms of their outputs and their performance has improved tremendously.
- There were action items upon return therefore the skills and knowledge were applied. Some were requested to initiate projects linked to what they had learnt in Belgium
- Concepts of the new business development have been implemented.
- They have introduced new trends, handle staff and business very well so it's quite beneficial.

- When they got back they had to benchmark exercises in larger scale operation, they have come back with the better understanding of processes, cost savings and customer relations.
- The training was not relevant for our unit, e.g., APEC covers dredging for different companies and therefore other technology may not be relevant for local companies.

#### **9.4 Candidate performance**

Employers were requested to indicate whether they had observed any changes in performance of candidates after attending the seminars. The following responses were received:

- Observed maturity levels in dealing with Legal issues – brought positive contributions from lessons learned.
- In some cases there have been promotions with additional tasks and responsibilities, salary adjustments but difficult to link with these with this intervention.
- Candidates came back highly motivated and inspired.
- Their performance has improved as a result they have been identified as key talent performance employees.
- They are much more productive employees although they are still in the same position but with added responsibilities.
- Observed improvement on the critical thinking which is positive in terms of career development.
- There is not much improvement as there's shortage of resources in the unit and therefore there are no better prospects yet.
- The experience is included in performance appraisals; the attendance just provided exposure and improved knowledge.
- The seminars were not designed from performance perspective.

#### **9.5 Content of the seminars**

Employers were asked whether they felt there was a need to review the content to fit into the industry requirements. The employers indicated that:

- That would not be necessary as the training is not a qualification.
- There is no need for review as it is very useful and informative according to the feedback received.
- It would be better to review and customise for SA needs.
- Dredging should be held in SA for our SA operations and not take officials to an international trip as a holiday.
- The world is changing and therefore a need for review is highly recommended so as to upgrade the standards.
- Rail-Port interface needs to be improved

- Security management, fire management services, and hazard identification and ranking, can add value to the course.
- An action learning project for each group that attends from South Africa is highly recommended.

## 9.6 Conclusion

In general the employers were of the view that the seminars were a good eye opener and added value. They were of the view that the training should be made a qualification and performance monitoring should be a requirement after the training so as to determine the need to send more candidates.

## 10. Family perspectives

One of the objectives of the study was to gather family perspectives on the economic contribution or changes in the household as a result of better job prospects that the candidates may have had. Although the candidates could not directly link the better job prospects to the attendance of the seminar, family members of some of those that had experienced changes were interviewed. It should be noted that the bulk of the candidates interviewed did not want family members to be contacted. Family members were requested to highlight the changes that had taken place in the household as result of the promotion or changes in income of the candidates. The following comments were made:

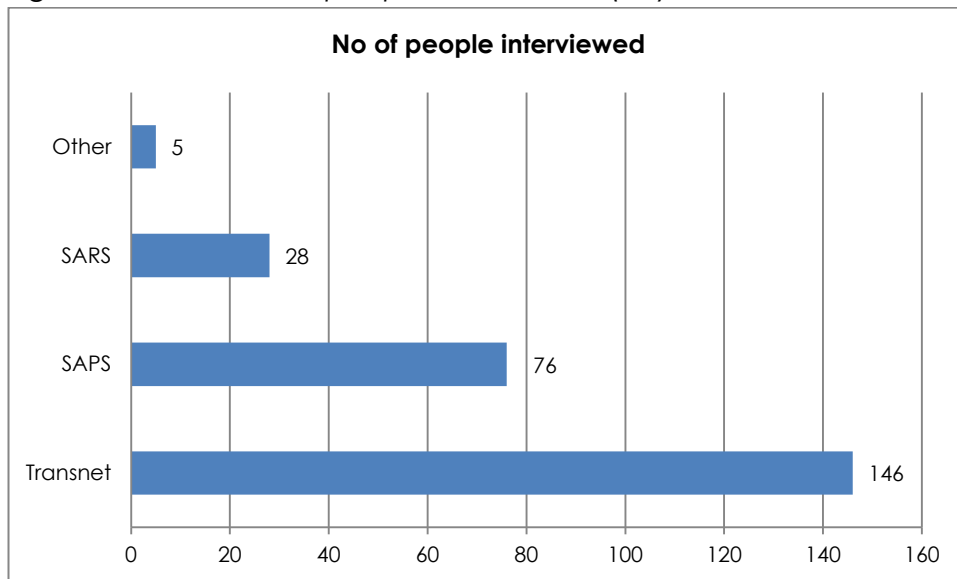
- There has been more financial stability which resulted in a few purchases for home improvements.
- Our household income has changed; the candidate is more globally orientated and economic sensitive and always wants saves costs.
- Relocated from East London to Gauteng, bought a bigger house, and got married.
- Promotion has brought more responsibilities; goes to work even when sick.
- He managed to further his studies, build the house at home, bought a car, he has become more professional and very responsible at home and at work.
- The candidate financially takes care of everyone in the household.

## 11. Findings: SA offering

### 11.1 Breakdown of attendance by company and province (SA)

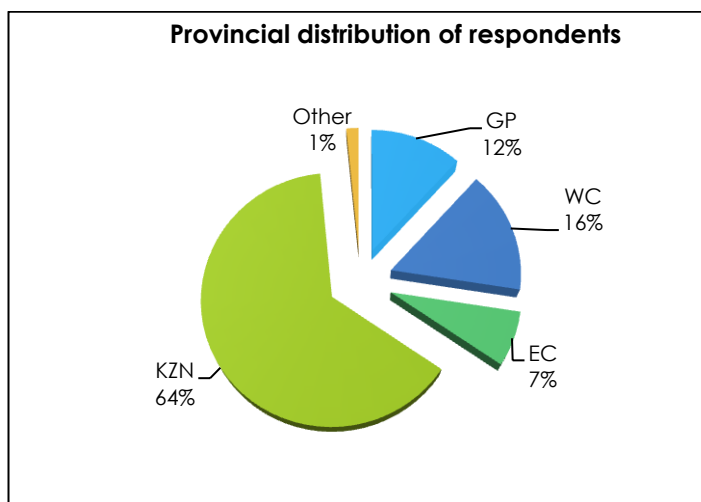
The total number of people interviewed in for the South African component amounted to 255. The majority of those were from Transnet at 146 candidates, followed by SAPS at 76 (**Figure 14**). It should be noted that the bulk of the people interviewed indicated that they could not remember the specifics of the seminars; as a result they could not provide much context to the discussion.

Figure 14 – Number of people interviewed (SA)



The majority of the people interviews were based in KZN (64%), followed by Western Cape at 16% (**Figure 15**).

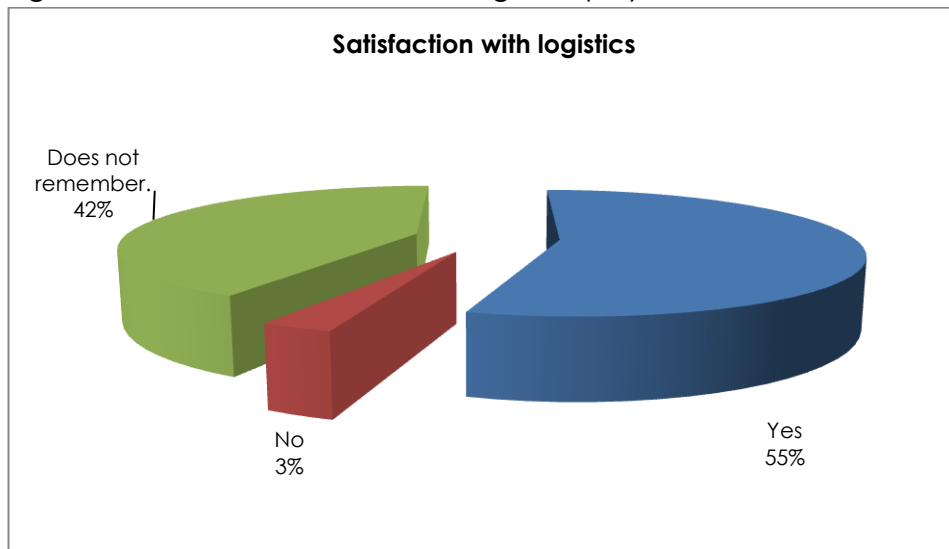
Figure 15 – Provincial distribution of candidates (SA)



## 11.2 Logistical arrangements (SA)

As illustrated in **Figure 16** below, candidates were generally happy with the logistical arrangements (55%), whilst some indicated they could not remember much (42%).

Figure 16 – Level of satisfaction: Logistics (SA)



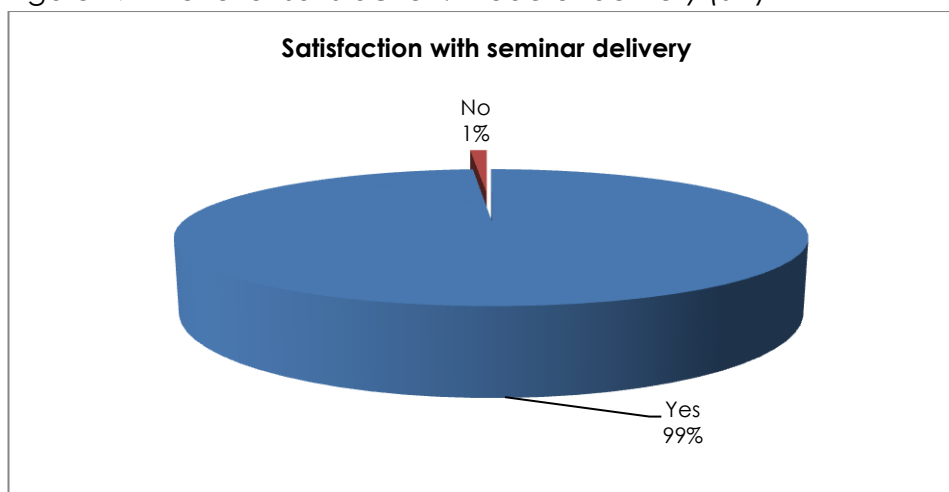
In respect of logistical arrangements, the following issues were raised:

- There were late notifications about the programme; communication should therefore be made in advance.
- In the future transport should be arranged.
- The venue was not adequate (2013 Break bulk seminar).
- There was repetition in terms of the menu and no Halaal food was provided.

### 11.3 Mode of delivery (SA)

The majority of the candidates indicated that they were satisfied with the mode of delivery; however they felt that practical aspects should be brought into the process.

Figure 17 – Level of satisfaction: mode of delivery (SA)



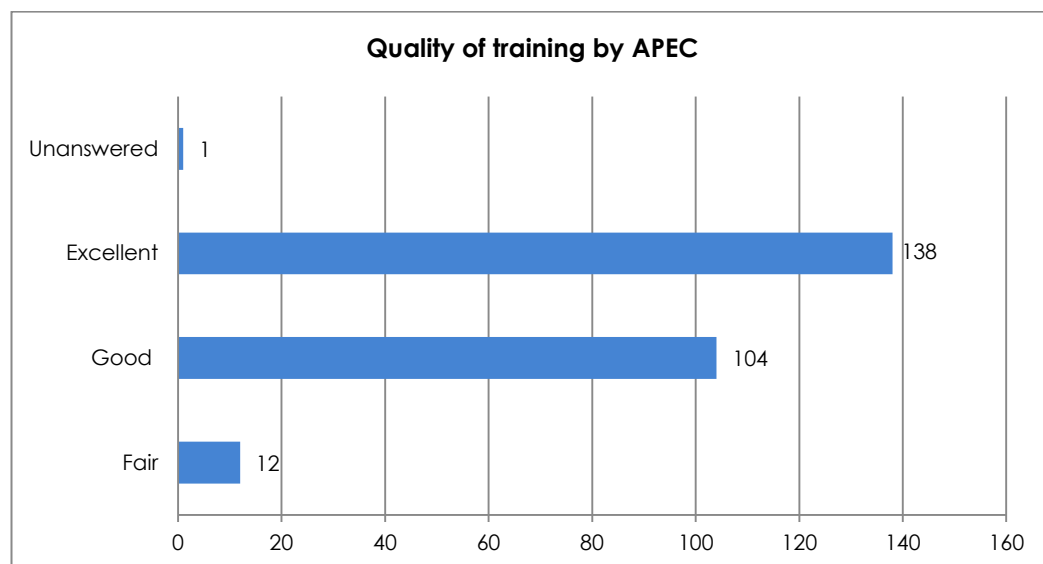
A few concerns were raised and these included:

- The trainer did not captivate the audience and there was not much interaction.
- The practical aspect was not sufficient.
- There was a lot of information provided within a short period of time.

- The mix of attendees has to be correct, for instance, Senior Management should not be mixed with stevedoring employees as the level of understanding may not be the same.
- The training was not interesting.
- There should be better planning of the activities and things must be done timeously.

The majority of participants felt that seminars provided by APEC were excellent (**Figure 18**) their scope of knowledge in respective fields was broadened.

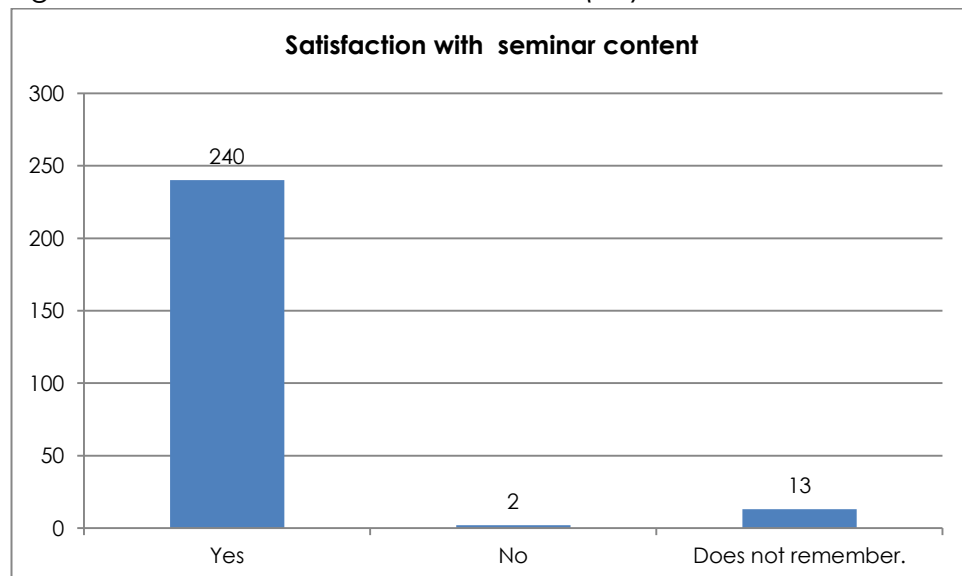
Figure 18 – Quality of training (SA)



#### 11.4 Seminar content (SA)

In respect of content 94% (240 candidates) indicated that they were happy with the content covered, whilst 5% could not remember much about the content (**Figure 19**). It should be noted that even though the bulk indicated that they were satisfied with the content, when asked about any improvements that could be made, they indicated that they could not remember much about the content.

Figure 19 – Level of satisfaction: content (SA)



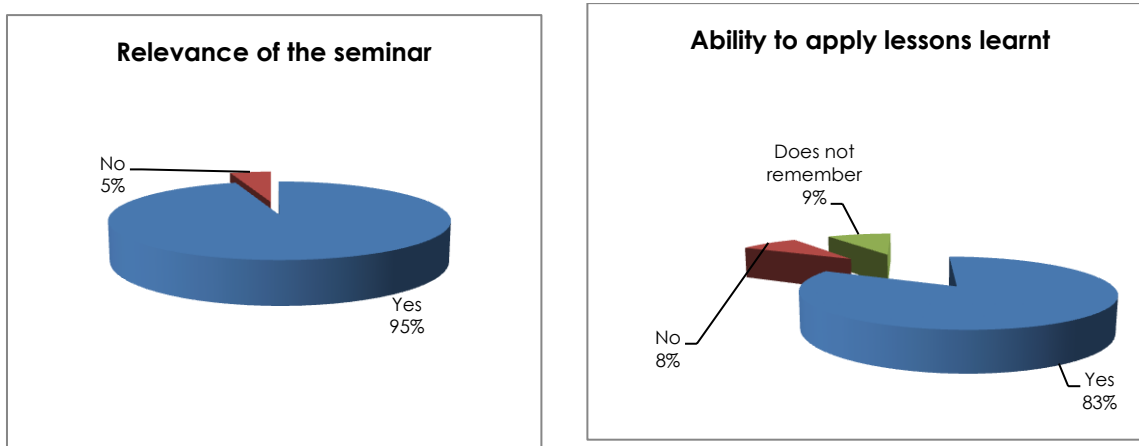
The following issues were raised in respect of content:

- The focus was on Antwerp and not how SA can improve its own processes.
- More case studies / real examples would have supported the learning process.
- Best practices should be included.
- Detailed information should be provided.

### 11.5 Relevancy and applicability (SA)

In terms of relevance of the seminars to the work environment, 93% of the candidates found the seminars to be relevant, whilst 5 % could not remember, and 2% found them to be not relevant (**Figure 20**). In respect of applicability, 8% could not apply the knowledge acquired, whilst 9% could not remember (**Figure 21**).

Figure 20 and 21 – Relevance and applicability (SA)



In terms of relevance, the following comments were made:

- The seminars provided a better understanding of operations and human capital development. Some didn't know much about their functions until they attended the seminars.
- They enhanced knowledge, and provided skills needed to improve operations and enhance the quality of work.
- They provided context and understanding of global practices and logistical issues (and its role in the import industry), and the core business.
- They were partially relevant for general knowledge. It was valuable to have that knowledge although it was not job specific or relevant for the unit.
- It has helped with efficiency and work is now easier to understand.
- It was relevant for future development.
- It was relevant but do not remember much about the training.

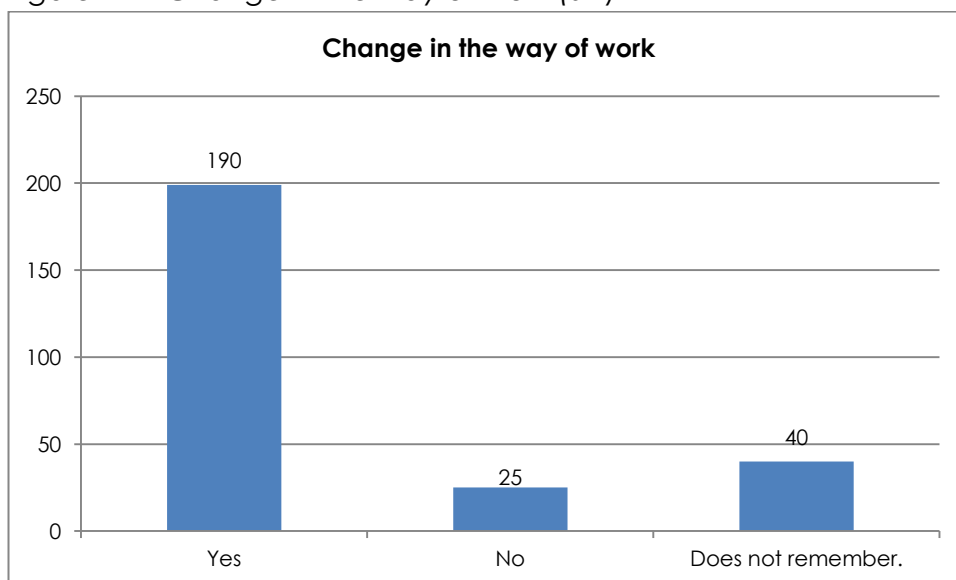
In respect of the ability to apply the knowledge acquired, the following responses were received:

- The knowledge was applicable in terms of environmental issues, planning an operations, business contracts, customer relations, efficient management of processes with regard to port operations, security etc.
- The knowledge and skills acquired from the training are utilised in the day-to-day operations of the ports.
- It enabled some to utilise better analysis methods.
- It enabled some to transfer the best practice and standards from Belgium to local clusters.
- Some incorporated waste management and environmental improvement processes into the teaching material for students.
- Limited applicability due to inefficiencies between harbours.
- Unable to apply as the training focused on harbour activities and which is not within scope of current work.
- It was not easy to apply as the focus was on operations whereas the unit focus is on engineering.

### 11.6 Change in the way of work (SA)

Candidates were requested to indicate whether knowledge gained resulted in the change in approach when performing their functions. Of the total number of candidates interviewed, 75% (190 candidates) indicated that the experience changed their way of doing this, whilst others could not remember or could not report any changes (**Figure 22**).

Figure 22 – Change in the way of work (SA)



The following responses were received:

- The experience has resulted in a more focussed and structured way of working through applying theory in practice.
- It has improved commentary in financial reporting as well as costing of operational processes.

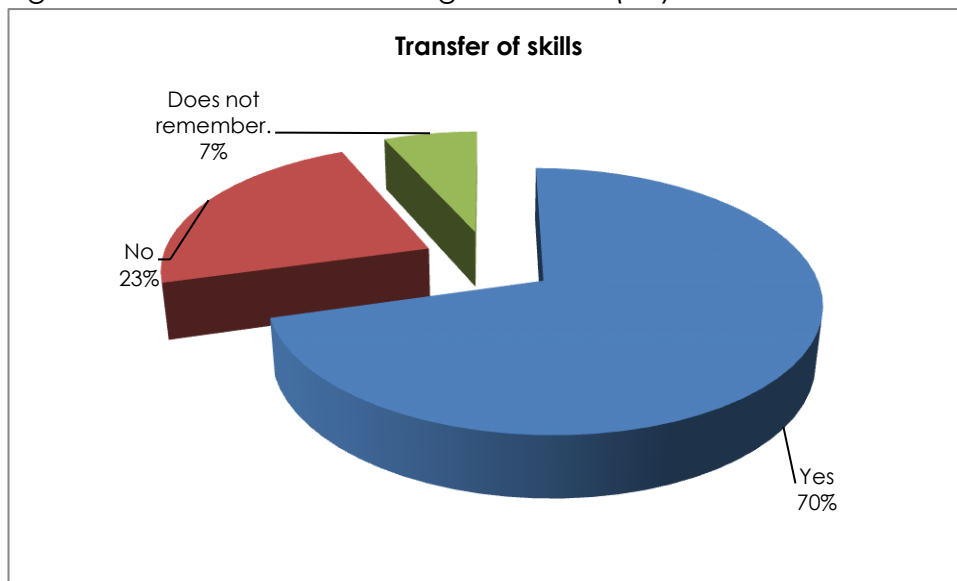


- It has enabled the team to work more closely through knowledge sharing and has resulted in open-mindedness.
- It has enhanced the capacity to execute strategies with on-going self-directed learning.
- Problem solving abilities have been enhanced.
- It has enabled full participation in management meetings due to better understanding of port operations and also how other units function.
- It has increased productivity.
- It has increased the ability to identify irregularities, possible risk cargo, and has made them more alert about transporting requirements.
- Some have become more prepared, deal better with customers, and better in negotiation.
- It has enabled some to work more efficiently to fully optimise systems.
- It has resulted in better supervision of ports and personnel.

### 11.7 Skills and knowledge transfer (SA)

When requested to indicate whether they were able to transfer the knowledge acquired to colleagues, about 70% of the candidates indicated that skills were transferred (**Figure 23**).

*Figure 23 – Transfer of knowledge and skills (SA)*



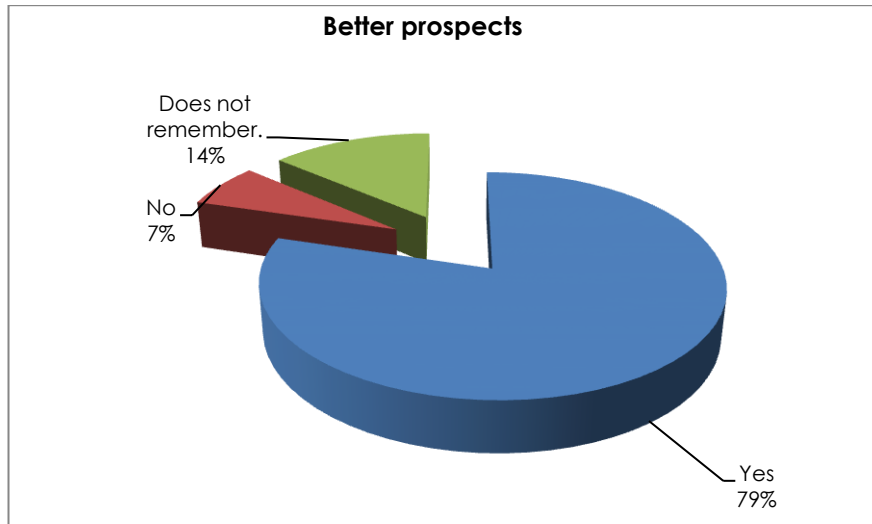
The following responses were received:

- Knowledge was shared through out of the box discussions with colleagues to ensure that implemented processes work.
- Knowledge was shared indirectly through applying knowledge from the training.
- Knowledge was shared only if colleagues need help.
- Knowledge was not shared as most colleagues attended the training.

### 11.8 Better prospects (SA)

Candidates were requested to indicate whether there were any better job prospects that resulted from applying knowledge acquired from the seminars. Of the total candidates interviewed, 79% indicated that there were changes even though they could not directly link that to attending the seminar (**Figure 24**).

*Figure 24 – Better job prospects as result of attending seminars*



Candidates indicated that knowledge acquired may have contributed to movement to other divisions, broadened their scope of knowledge; added more responsibilities; and contributed to a promotion and increase in income.

### 11.9 Conclusion

In conclusion, candidates indicated that it was difficult to evaluate impact as the assessment is done after a long time and some could not remember the details of the seminars. They were of the view, however, that the seminars were useful in that they improved their level of understanding and more seminars would be of value. Practical components however, should be included. It was suggested that individual career plans should be considered prior to attendance since training may be more than what is needed by some candidates for their daily activities. Furthermore it was indicated that discipline was a challenge as some arrived late and others made noise possibly due to a lack of interest.

### 12. Employer perspectives (SA)

There was a challenge with getting employer views for SA component. Five employer interviews were held (SARS (1), SAPS (1), Transnet (3)). In terms of whether the seminars were relevant to the needs of the industry, the employers indicated that:

- It gave a broader understanding of certain functions.
- Fully in line with what we expected. It was very relevant for the needs of the industry.
- If it have more African aspects it would be more relevant.
- It would add more value if it was accredited.

In terms of applicability to the work environment, the employers indicated that:

- They apply the knowledge in their daily tasks.
- It provided them with insights on best practise by benchmarking with other ports.
- The knowledge acquired was not relevant to the unit so it could not be applied.

In terms of impact on performance, the employers indicated that:

- It would be difficult to determine performance off hand but the general view is that the complaints have been minimised which shows that there is tremendous improvement on performance.
- The candidates have better understanding of terminal operations; better planning, execution and time management.
- The experience provided them with new ideas, however no promotion as yet but a lot of improvement on the performance point of view.
- Performance cannot be quantified but knowledge has been broadened and changes have been effected.
- Cannot say there has been an improvement in performance but there has been an improvement in the understanding of the core business of the organisation

In terms of improvements to the content, the employers suggested that:

- Due to the fact that the training is technical in nature, Industrial Relations aspects should be included.
- Mentorship, practical aspects should improve – there should be site visits.
- The training should be accredited.

In terms of knowledge sharing:

- When they got back to their respective units they have to share what they have learnt from the training.
- In some cases it takes form of informal discussions within team,
- It has not been a requirement to actually share the knowledge.

## **12.1 Conclusion**

The issue of accreditation came out very strongly as the view was that it would add more value if it the seminars were accredited. It was suggested that it should be done in a training institution with approved curricula and practical components have to be considered. The seminars appear to be of great value for the maritime sector for growth. However lack of African perspectives made it appear as just an information sharing session.

## **13. Employment in the ports and logistics sector**

### **13.1 Typical skills within the sector**

The maritime industry in SA is vibrant and that offers a number of opportunities. The main activities are in the Ports and Logistics subsector, based in the eight commercial ports, and the fishing industry. **Table 2** below illustrates the kind of the employment opportunities (not an exhaustive list) within the Ports and Logistics subsector

*Table 2 – Type of skills within various subsectors*

<b>Port Industry (Deals with the Ship and Actual Handling of Cargo)</b>	
<b>Industry</b>	<b>Typical Skills</b>
Cargo Handling and Storage	Stevedoring, Cold Storage Operators
Terminal Operations	Cargo Handling Equipment operators, terminal management
Marine Services	Vessel Traffic Services, Marine Pilots, Tug Masters, Engineers, Ratings, Berthing Masters, Berthing Shorehands
Bunkering Services	Barge Masters, Engineers, Ratings
<b>Freight and Logistics (Services Supporting the importation/Export of Cargo)</b>	
<b>Industry</b>	<b>Typical Skills</b>
Freight forwarding	International trade and logistics
Clearing and forwarding	Customs clearance, international trade
Logistics, Warehousing and Storage	Logistics management
<b>Vessel Operations (Management and Crewing and Facilitation)</b>	
<b>Industry</b>	<b>Typical Skills</b>
Vessel Management and Crewing	Vessel Manager, Crewing Manager, Ship Superintendent,
Vessel Planning	Vessel planner
Ship chartering	Maritime Economics, international trade
<b>Vessel Operational Support</b>	
<b>Industry</b>	<b>Typical Skills</b>
Ship Repair and Maintenance	Dockmaster, Boilermaker, Welder, Millwright,
Vessel Bunkering	Bunker trading, bunker handling
Vessel Agency	Ship agency
Stores and Victualing supplies (Ship chandelling)	Stores management

Source: SAMSA

### 13.2 Employability of candidates

The bulk of the candidates are employed on a full-time basis. Some have remained within the same organisations, with some moving internally within different units; whilst a few had moved to other organisations. Only one candidate from the Belgian component was unemployed as at end October 2015 due to retrenchments in the organisation he was working for. He indicated that he was still interested in pursuing a career within the sector. Four candidates from the Belgian component indicated that they were self-employed, some focusing on training and development, and others in industry processes. In respect of the SA component, only one person indicated that he was self-employed; a few have changed jobs, whilst others still remain within the same company. Only one person has retired.

### 14. Additional training required

The bulk of the candidates interviewed indicated that they required further training to develop themselves and also increase the chances of career progression. Of the total number of candidates interviewed from the Belgian component, about 86% indicated that they required further training. Some of the areas in which the require training include, amongst others,:

- Port Management and how it affects health and safety;
- Fire safety;
- Port logistics;
- Rail related training;

- Port operations (support service perspective and technical perspective);
- Legal framework;
- Container terminal management;
- EDI aspect;
- Marine training and development;
- Port engineering and management;
- Port quality and safety;
- Supply chain management;
- Port environment and pollution control;
- Port management;
- Marine engineering;
- Break Bulk Cargo;
- Environmental law and assessment;
- Port technology; and
- Refresher courses and management courses.

From the SA component the candidates indicated that they would like training in:

- Break bulk cargo;
- Port concessioning;
- Economics of communities around ports;
- Port planning;
- Port logistics;
- Rail and terminal management;
- Project planning;
- Logistics and supply chain;
- Customs related training;
- Neuro-linguistic programming; and
- Refresher courses or any other port and logistics training

## **15. Feasibility of integration into the programme into Maritime School of Excellence**

### **15.1 Background**

The Maritime School of Excellence (MSoE) is located at the Port of Durban and has satellite campuses in Cape Town, Richards Bay, and Port Elizabeth. The MSoE offers high-end training in marine and port training programmes and is accredited with the South Africa Maritime Safety Authority (SAMSA) and TETA. It also offers research and development services to the maritime industry. The institution has been offering training since 1991 and offers over 40 courses and can accommodate up to 60 000 students per year. The institution has also offered training to

other countries in Africa such as, amongst others, Mozambique, Kenya, Tanzania and Cameroon. The institution currently offers 17 marine training programmes and these include the:

- Tug Master training programme;
- Marine Pilot training programme;
- Motorman grade II;
- Skipper port operations;
- 2<sup>nd</sup> Engineer operations;
- Vessel traffic service;
- Dredging training programme;
- Chief Engineer port operations;
- Shore hands;
- Ordinary Seaman (Deck and Engine);
- Steering and lookout;
- Coxwain;
- Able Seaman (Deck and Engine);
- Master port operations;
- Marine Resource Management;
- Berthing Master; and
- General purpose rating.

There are also about 31 terminal port operations and management courses offered and these include, amongst others:

- Cargo coordinator training;
- Container reach stacker;
- Planner training – containers;
- Bulk ship loader;
- Supervisory development programme; and
- Port worker development programme.

The training staff includes Marine Pilots, Harbour Masters, Port Engineers, Tug Masters, and Terminal Operators. The institution also works closely with a number of organisations which include, amongst others, the STG Group (Rotterdam), APEC, SA Police Services, Durban University of Technology and Cape Peninsula University of Technology, international universities and the Maritime Chamber of Commerce.

## **15.2 Programme integration**

A discussion was held with the Head of the MSoE and the Senior Manager: Quality about the feasibility of integrating the APEC programme into the portfolio of the MSoE. The outcomes of the discussion can be summarised as follows:

### **a) Views about the APEC offering in Belgium**

- The offering is slightly relevant to the SA environment except for the one on Inland Waterways as these do not exist in SA.
- The structure is more of a seminar/workshop rather than a training course since it does not actually deliver a competence.
- The seminars are very basic and introductory. The programme offers a high-level picture with some level of exposure to the port system in Belgium.
- It would be useful to have some level interaction in terms of the focus areas should take place prior to delivery.
- The seminars serve as some form of a marketing drive for the port system in Belgium, which is not a bad thing, but there needs to be a balance between that objective and what the beneficiary extracts from the process.
- The practical element, i.e., site visits make the programme to be more attractive. The practical component is of great value but can be difficult to implement locally due to the different local environment.
- Offering the course in Belgium brings an aspiration component as well as a career advancement component for the attendees – the excitement of attending a seminar overseas and the aspiration to advance to a certain level in order to qualify for attending such international programmes. So even if the course were to be delivered in SA, that practical component of the current programme should not be taken away as it provides exposure of how systems work internationally.

### **b) Integration the programme into MSoE**

A question was raised on whether it would be possible to adopt the APEC programme and adjust it to the needs of the SA environment or improve the existing MSoE offering to fully address the SA needs. The following responses were provided:

- A hybrid approach that would utilise Antwerp for benchmarking would be recommended.
- It would be challenge to take the programme as is and tweak it to fit SA needs since the programme is standardised according to the Antwerp structure and processes. The best approach would be to assess the programme and determine which aspects can be integrated into the MSoE programme or develop a new programme that is customised for the SA environment. The detailed outline and learning material of the APEC programme would be required in this regard.
- If the programme were to be customised, a standardised curriculum model based on the current APEC programme topics would need to be developed. This would have to be customised for the SA environment and would include local port tours.

- A standardised curriculum and learning material would need to be developed. A curriculum development budget would therefore be required.
- Service Level Agreements with main role players (local and international) would have to be signed where the role players would undertake to avail resources to ensure implementation of the programme.
- A funding model for transport and logistics would have to be developed, i.e., if candidates need to be transported to a tug, the transport to get there and the tug would have to be made available.
- APEC needs to provide a detailed outline of each programme topic.
- A feedback tool needs to be developed to determine impact of the training. This could require information such as projects implemented in line with the course.
- Best practices could also be developed which could be used in other countries in Africa.

### **15.3 Recommendations on programme integration**

The APEC course offering is viewed as valuable as it exposes people from different countries to the way international port systems work with specific reference to the Belgium system. It also allows for benchmarking between systems at the country of origin and that of Belgium. It has been emphasised, however, that although the knowledge acquired is valuable, it may in some cases, not be relevant or applicable to the local environment due to different processes, systems and legislation. It has been therefore recommended that the APEC programme be customised for the SA environment. This would entail development of course content, utilising local infrastructure to expose the candidates to the practical aspects, and getting relevant expertise both local and international to provide lectures. The following process has been proposed:

- Formation of a Task Team that will consist of the relevant players such as Transnet (Transnet Port Terminals and Transnet National Ports Authority); SA Police Services (SAPS), SA Revenue Services (SARS), APEC, TETA and other relevant players. This Task Team would be responsible for devising a methodology for delivery and developing content of the customised course.
- Service Level Agreements need to be signed by the role players where they would agree to support the programme through provision of resources, e.g., guest speakers to deliver the course.
- Sources of funding for curriculum development need to be identified.
- A funding model for transport and logistics to the various areas that need to be visited.
- Expertise – both local and international – will be required to deliver the courses.
- The programme should become a 3-week course, with the first 2 weeks being spent at the MSoE with some practical element at the SA ports. In the third week, the candidates would go to Belgium to get exposure into the Antwerp port system – this would also be used as a benchmarking exercise.



- The candidates will receive a proper qualification in line with the National Qualifications Framework (NQF).
- A feedback tool needs to be developed to capture impact, i.e., processes / projects that have been introduced to apply the knowledge acquired.

In respect of the relationship with APEC going forward, the following has been proposed:

- APEC needs to provide a detailed overview or learning material for the current seminars.
- Provision of expertise for course delivery and content development.
- Assist in facilitating the benchmarking exercise in Belgium during the last week of the course.
- Share current experiences in respect of planning and other logistics.
- A partnership between MSoE and APEC on research and development initiatives, i.e., joint publishing of research / articles in respect of port training.

#### **15.4 Conclusion**

The MSoE has the capability to offer a customised training programme in line with the APEC seminar topics for SA. The programme would be linked to the NQF, meaning that candidates that complete the programme will obtain some form of qualification. The human and financial resources are key in this process including development of the standardised curriculum. The infrastructure in terms of classrooms is available – the MSoE currently hosts the 2-3 day APEC seminars that are held in SA and uses its Bayhead facility which can accommodate up to 70 people. Partnerships with role players are required to ensure efficiency. APEC has been identified as key player in content development, research, and facilitating the benchmarking process.

Application of knowledge acquired has also been identified as a key element to ensure relevance and impact. It has been suggested that feedback tool be developed whereby candidates would be required to provide feedback on projects implemented; how the knowledge and skills acquired have been applied to the work environment; and how the knowledge has been transferred.

This programme could in the future be extended to other African countries and the programme on inland waterways which is not applicable to SA can be offered to candidates from countries that have such. In conclusion, the current APEC programme is valuable but needs to be customised for it to be fully relevant to the SA environment. The candidates will also be exposed to the SA port system and other relevant practical aspects so as to expose them to how the local system works. It is therefore important to have the local stakeholders on board so that they can avail expertise and facilitate the practical aspects of the programme. However, even if the course is offered in SA, the practical component in Belgium is very significant as it exposes the candidates to the international aspects where lessons can be learned for improvement of local systems and for benchmarking purposes. An engagement process with all relevant stakeholders will therefore be required to determine the methodology for delivery which will include issues such as curriculum development, human and financial resources, amongst other things.

## 16. Conclusion and Recommendations

Information gathered through the study indicates that in general, participants that attended seminars both in Belgium and in SA were of the view that this is a useful process which has contributed in skills development and knowledge expansion. The knowledge acquired has, amongst other things, contributed to productivity, increased efficiency, better processes, change in the way of doing things, and has influenced decisions to change technology and equipment in certain instances. The bulk of the candidates that attended the seminars were of the view that the seminars added value in the sense that they enabled benchmarking of processes to bring local processes in line with global standards. However, some were of the view that SA was more advanced in certain aspects, for instance, in health and safety which presents an opportunity sharing best practice from both sides. There were some that felt that they learnt nothing new or the knowledge acquired was not in line with their functions, which highlights the need to send people to seminars that are directly linked to their functions so that they can be able to apply the knowledge acquired in their own work environment.

Another issue that came out strongly was that some of the aspects were not implementable in the South African environment due to different processes, infrastructure and legislation. It has been emphasised, therefore, that although the knowledge acquired is valuable, it may in some cases, not be relevant or applicable to the local environment due to different processes, systems and legislation. It has been therefore recommended that the APEC programme should be customised for the SA environment. However, it has been reported that the APEC standard seminars cannot be customised unless it is a tailor-made seminar developed with the relevant country organisations. Transnet, for instance, has approached APEC directly to develop customised programmes.

The issue of lack of budget to fully implement was highlighted as well as the need to allocate more time to the practical aspects of the seminars. This issue also came out strongly in the SA offering as well where candidates felt that they needed exposure to the practical aspects. Furthermore, the issue of the need to conduct monitoring and evaluation within a certain period after attendance as some could not remember the certain aspects of the seminars, especially in the APEC local offering, was emphasised.

In terms of the proposal to integrate the seminars into the programme of Maritime School of Excellence, some candidates were of the view that, local site visits would be useful for those who have never been or worked in a port before, but greater value would be derived from exploring international sites and processes which were usually more advanced than SA. The Senior Management of the MSoE were of the view that even if the seminars were to be offered at the school, a week would be required in Belgium for benchmarking purposes.

In terms of determining the whether this intervention was demand or supply-driven, the Belgian process appears to be supply driven, with the Belgian authorities offering skills development initiatives to local organisations for candidates to apply. This however creates a challenge as the selection processes are not clear – whether candidates are selected based on the relevance of the seminars to their functions or individual development plan. The challenge comes in when candidates are not able to apply knowledge acquired due to irrelevance to their work environment. However, in terms of the tailor-made seminars (Belgium) appears to be demand-driven, as the organisations usually make direct requests for tailor-made seminars. The

SA offering by APEC is linked to individual development plans and seminars are customised for the SA environment.

The following recommendations therefore are being made:

- **Selection process:** The selection process should be linked to relevance and individual development plans so that candidates can be able to apply knowledge acquired. The process should afford other organisations with more opportunities as well, not just the major three organisations (Transnet, SARS, SAPS). Some candidates felt that there were more allocations of spaces to Transnet. However even within Transnet, some were of the view that the centralisation of the process at Transnet resulted in opportunities not filtering down to other employees who would have liked to attend. It is therefore recommended that within organisations, employees within units that are directly linked to the themes of the seminars should be considered so as to ensure that those who are relevant attend and they can be able to come back and implement lessons learned.
- **Logistical arrangements:** It has become clear from the responses received that there needs to be a clear communication process especially from the organisers from TETA. A number of complaints were put forward about the coordination process from TETA. Candidates also expressed concern about late notifications in terms of travel and visa logistics. Communication in this regard needs to be done in advance to give candidates more time to organise themselves. It has since been reported that the coordination role has been shifted to BTC, but TETA needs take note of the complaints received so that such instances are avoided in future roles. Furthermore the issue of transfers should be addressed as there seemed to be uncertainty on whether candidates should organise this by themselves or it should be part of the logistical arrangements by BTC/TETA. It would be ideal if organisers dealing with flight and accommodation would also ensure that transport is included in the land-based arrangements.
- **Delivery and content:** Candidates indicated that there was not enough time allocated for site-visits, it felt as if they were being rushed through without the opportunity to ask questions or fully experience the processes within those sites. It is therefore proposed that more time should be allocated for the practical aspect to enable them to have full appreciation of the processes which will enable them to better implement any lessons learned. For the South African aspect of the APEC offering, a review of the content and delivery mode needs to be done in order to add more value to the candidate. As indicated, practical aspects are required and the content needs to be linked to site visits to enable them to better apply lessons learnt and remember what they were taught.
- **Accreditation:** Another point that came out strongly was that although the seminars contribute to the broadening of knowledge, they do not contribute much to their career progression or CVs as the seminars are not a qualification. Qualifications play a key role in career progression so it would be ideal if the seminars would be converted into a qualification. If the courses are to be offered locally they will have to go through the NQF qualification process, but if they continue to be offered in Belgium, they would have to be accredited by the relevant Belgian authority for them to be recognised by the local national qualification framework (South African Qualifications Authority).

- **Programme integration into the MSoE:** Discussions were held with the management of the MSoE to determine the feasibility of programme integration into the School's portfolio. It has been therefore recommended that the APEC programme would have be customised for the SA environment. This would entail development of course content, utilising local infrastructure to expose the candidates to the practical aspects, and getting relevant expertise both local and international to provide lectures. In order to achieve this, a Task Team that will consist of the relevant players such as Transnet (Transnet Port Terminals and Transnet National Ports Authority); SA Police Services (SAPS), SA Revenue Services (SARS), APEC, TETA and other relevant players would need to be formed to craft a methodology for delivery and developing content of the customised course. Support from role players in terms of resources (including funding) would be required; and expertise – both local and international – would be required to deliver the courses. Furthermore, the candidates would receive a proper qualification in line with the National Qualifications Framework (NQF). The proposed model would to be to make it a 3-week course, with the first 2 weeks being spent at the MSoE with some practical element at the SA ports; and the remaining week would be spent in Belgium to get international exposure. However, taking people away from work for such a long time could be a challenge.
- **Monitoring and Evaluation:** The bulk of the candidates who attended the SA seminars could not recall the content covered during the seminars which made them unable to contextualise their responses. Some indicated they could not even remember attending the seminars. It is therefore recommended that on the last day of the seminars (both Belgium and SA), the candidates should be requested to complete some evaluation forms to gather perspectives about the offerings whilst concepts are still fresh in their minds. This will assist in determining whether there are any improvements to be made. Furthermore, another assessment should be done after a year of attending to determine impact on the work environment and whether they were able to apply the knowledge acquired. It is also suggested that feedback tool be developed whereby candidates would be required to provide feedback on projects implemented; how the knowledge and skills acquired have been applied to the work environment; and how the knowledge has been transferred.
- **Management buy-in:** Some of the candidates indicated that they were unable to implement certain concepts due to lack of buy-in from the executive level as some members of the managers merely viewed the process as just an information gathering session or holiday which does not bring much value to the respective units. Some indicated the lack of authority to implement or apply knowledge acquired. There should be communication internally between the coordinators and the management to outline the benefits of the seminars and the intended outcome, and how that is linked to the business.

In conclusion, the offering appears to be generally viewed in a positive light by both employers and candidates in that it adds value to the internal processes and serves as a benchmarking tool even though some of the aspects are not applicable to SA. This therefore highlights the need to have such interventions to develop skills within the maritime logistics sector. As previously stated, the ocean economy has been identified as one of the key growth areas for the country, with a potential to create jobs. Skills development in this area is therefore required

to ensure that there are enough skills to take advantage of those opportunities and to also enhance existing skills in line with global standards as the maritime sector is a global industry.

If the decision of offering all the seminars in SA is made, it has been recommended that the site-visits in Belgium still be maintained for benchmarking purposes. Furthermore, attending an international course builds up self-esteem and confidence as the employee feels more valued in that the organisation is willing to invest in his /her development by sending them overseas for training. Another alternative that could possibly be considered is that of using audio-visuals to show different processes in Belgium instead of taking candidates to Belgium for site-visits. This could prove to be cost effective. The programme will have to be customised for the SA environment and also take into account other African aspects as the programme may possibly be extended to other African countries. If the decision is to continue with the status quo, more time needs to be allocated to the practical components as candidates are interested more in seeing the different processes from which they can draw lessons from.

Going forward TETA needs to consider the findings and have an internal discussion on the approach going forward in line with the institution's requirements and also consult with relevant stakeholders to chart a way forward.

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## Appendix 1 : Candidate Questionnaire

For office use:	Company:	Province:
	Country of training:	
	Interviewer	Date:
		Time:

SECTION 1: BACKGROUND INFORMATION (To be filled in from database)		
1. Name of Respondent:		2. Company:
3. Course attended:		
4. Year	5. Location:	6. Position:
7. Contact details:		
Email		
Phone		

SECTION 2: EDUCATION						
8. What was your highest qualification before attending the training?						
9. Please rate your knowledge about the subject matter prior to training. <b>Mark with (X)</b>						
Poor						
Average						
Good						
Excellent						
10. Please rate the quality of the training provided to you by BTC/TETA <b>Mark with (X)</b>						
Fair						
Good						
Excellent						
11. Were you satisfied with how the training was delivered?						
<table border="1"> <tr> <td>Yes</td> <td>No</td> </tr> <tr> <td></td> <td></td> </tr> </table>			Yes	No		
Yes	No					
<b>Mark with (x)</b>						
12. If NO which part was unsatisfactory?						



13. If NO kindly suggest improvements that can be made:		
14. Were you satisfied with the content that was covered? <b>Mark with (X)</b>	Yes <input type="text"/>	No <input type="text"/>
15. If NO kindly suggest improvements that can be made.		
16. Were the lecturers and study guides clear and concise? <b>Mark with (X)</b>	Yes <input type="text"/>	No <input type="text"/>
17. What aspects of the training were you not happy with?		
18. Did you attend additional courses after the training? Please elaborate		
19. Do you require additional training to improve employability? Please elaborate.		
20. Were the logistical arrangements (travel, communication etc.) satisfactory? <b>Mark with (X)</b>	Yes <input type="text"/>	No <input type="text"/>
21. If not, what improvements can be made?		
22. Would you recommend the training to your peers?	Yes <input type="text"/>	No <input type="text"/>

**SECTION 3: EMPLOYMENT**23. Are you currently employed? **Mark with (X)**

Yes	
No	

24. What is the nature of your employment? **Mark with (X)**

Full-time	
Contract	
Part-time	
Self-employed	

25. Sector: **Mark with (X)**

Government	
Parastatal	
Private	

26. Are you still with the same company you were working for when you went on this training? **Mark with (X)**

Yes		
No		New Company:

27. If yes (to 25), please indicate why you chose to stay with this company.

**Mark with (X)**

Better opportunities	Haven't found another job	Other

28. If unemployed, provide reasons for unemployment

Retrenched	Resigned	Pensioner

29. If unemployed, are you still interested in pursuing a career in Maritime and Logistics?

**Mark with (x)**

Yes	No

30. If self-employed, what is the nature of your business?

31. Was the training relevant to the work you are/were doing (whether employed or self-employed)? Please elaborate.

32. Did skills & knowledge acquired present better job prospects for you?

**Mark with (X)**

Increase in income	Promotion at work	Better offer at another company

#### Section 4: KNOWLEDGE, ATTITUDE, BEHAVIOUR

33. Are/were the skills and knowledge acquired through the training relevant to your work?

**Mark with (X)**

Yes	No

34. Were you able to apply the skills and knowledge acquired from the training in your work environment? Please elaborate.

35. Were you able to transfer any skills/knowledge acquired to your colleagues? Please elaborate

36. Has the knowledge acquired improved the way you do your work, e.g., better approach due to knowledge acquired etc? Please elaborate

37. Are you positive about your future career prospects after attending this training?

**Mark with (X)**

Yes	No

#### SECTION 5: ECONOMIC WELL-BEING

38. Has there been career advancement after attending the training?

**Mark with (X)**

Yes	No

39. If yes, what kind of advancement? <b>Mark with (X)</b>	Promotion	Increase in income	Own business
40. How has your lifestyle changed since the positive development? Please elaborate			
41. Can a family member be interviewed to determine the impact of this advancement in your household? <b>Mark with (X)</b>	Yes	No	
42. If yes, please provide contact details			
43. Any general comments about the training?			

THANK YOU!

## Appendix 2: Employer Questionnaire

For office use:	Company:	Province:
	Interviewer:	Date:
		Time:

SECTION 1: BACKGROUND INFORMATION		
1. Name of Respondent:	2. Company:	
3. Location:	4. Contact details:	
	Email:	
	Phone:	
5. Position:		
6. Gender:		

SECTION 2: EMPLOYMENT		
7. How many of your employees have attended the course?		
8. How many under your direct supervision?		
9. If not a direct supervisor, do have any reports from other supervisors on the performance of the candidate since returning from the course?		
<b>Mark with (X)</b>	Yes	No
10. If the supervisor at the time is no longer employed by the organisation, can his/her contact details be provided?		
<b>Mark with (X)</b>	Yes	No
11. How many candidates have since left the organisation?		
12. In your observation, has the candidate applied the skills and knowledge acquired upon returning from training? Please elaborate.		
13. What was the candidate's level of awareness about the subject matter prior to attending the course?		
	Average	Good
		Excellent
<b>Mark with (X)</b>		

14. Were there any improvements in the candidate's performance that resulted in better prospects for the candidate? Please elaborate.
15. In your observation, has the candidate shared his/her knowledge with colleagues? Please elaborate.
16. Any general comments?

SECTION 3: EDUCATION		
17. Have assessed the course content? <b>Mark with X</b>	Yes	No
18. Does the design and curricula of the learning programmes meet the needs of industry? <b>Mark with X</b>	Yes	No
19. Please elaborate		
20. Are the courses relevant to the work done by the organisation? <b>Mark with X</b>	Yes	No
21. Which part of the course content do you think is most useful?		

22. Which part of the course content do you think is not useful?					
23. Is there a need to review the curricula and mode of delivery? Please elaborate					
24. Do candidates require additional training? <b>Mark with (X)</b>	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Yes</td> <td style="padding: 5px;">No</td> </tr> <tr> <td style="height: 20px;"></td> <td style="height: 20px;"></td> </tr> </table>	Yes	No		
Yes	No				
25. If so, in which areas?					
26. Are there any recommendations on how the programme could be improved?					

### Appendix 3: Family Member Questionnaire

For office use:	Candidate name:	Company:	Province:
	Family member details:		
	Interviewer:		Date:
			Time:

SECTION 1: GENERAL QUESTIONS		
1. How many people are employed in the household?		
2. Has the training provided better prospects for the candidate?	Yes	No
<b>Mark with (X)</b>		
3. What kind of lifestyle changes have occurred since the progression by the candidate?		