



BENCHMARKING – ITS APPLICABILITY TO MET

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ABSTRACT

We consider ourselves to be professionals. We get our institutions quality assured. We consider that we produce safe, well trained seafarers. But on a range of objective measures many maritime education and training (MET) institutions have failed. Failed that is to produce safe, well trained seafarers. In short, we have failed to act professionally. STCW 95 bears witness to this failure as it is not just about the competence of seafarers, it is also very much about the competence of those of us who educate and train seafarers as well as the institutions in which we work.

This paper identifies the attributes of MET institutions providing quality education and training, examines some of the issues associated with quality assurance, and considers how a MET institution might engage in benchmarking. Regardless of the innumerable external constraints there are many things a MET institution can, indeed must, do internally within the organisation to ensure core business activities are carried out in a professional manner; benchmarking assists in achieving this.

Benchmarking in MET is a relatively new concept however, if used constructively benchmarking can be used for three distinct purposes, namely:

- to ascertain performance trends so as to initiate continuous self-improvement activities;
- to compare performance between institutions in mutually agreed areas;
- to determine one's competitive position relative to others.

The paper examines a range of measures suitable for the benchmarking of MET institutions and concludes that for a MET institution to be legitimately recognised as a quality provider it needs to do much more than become quality assured.

INTRODUCTION

Teaching is an ancient and generally well respected profession and the education of our future generations brings with it an awesome responsibility. In maritime education and training (MET) it could be argued that many MET institutions have not met their responsibilities, that is they have failed to produce graduates who can become safe, effective and professional seafarers. Without dwelling on a defence of this thesis it is sufficient to point out that STCW 95 is a direct result of this failure to produce competent seafarers. As professional educators and teachers we should be ashamed that it has taken an international convention to drag MET kicking and screaming into the modern world of education. STCW 95 is not just about the competence of seafarers it is also very much

about the competence of those of us who educate and train seafarers as well as the quality of institutions in which we work. Just ask yourself why it is that so many countries and their MET institutions have experienced difficulties in adopting the STCW 95 competency based approach to training. Anyone involved in education should recognise that the approach adopted by STCW 95 is a reflection of criterion referenced training (CRT), which was in vogue during the 1970s, and competency based training (CBT), which is currently in vogue. Whilst the approach adopted in STCW 95 may be new to many MET providers it is, in reality, well tried and understood by educationalists. Lewarn [1].

How then does a MET institution know how well it is performing its primary function of educating and training seafarers? What separates the good from the less good, the quality institution from the ordinary institution, or the professional from the less professional institution? To begin to answer these important issues a starting point is to identify the attributes of good quality MET institutions.

THE ATTRIBUTES OF A QUALITY MET INSTITUTION

Empirical observation shows that if you examine MET institutions which are well regarded by graduates, employers and academic staff then they are likely to possess the following attributes:

- educationally valid courses (approved and audited by a competent education authority);
- qualified staff (technically and teaching qualified);
- good facilities and equipment (suitable for the task, maintained, upgraded/replaced regularly);
- quality system comprising standards, procedures etc for anything affecting core business (valid, documented, accessible, used, maintained, audited and improved);

- external audit/accreditation (independent verification of standards of courses, teachers, teaching equipment, facilities, processes/procedures);
- quality graduates (competent, employable, reputable, professional).

Lewarn [2]

If a MET institution genuinely meets these criteria then the implementation of STCW 95 has little real effect on the institution but on the other hand if a MET institution does not meet these criteria it will need to lift its performance or be forced out of the business of MET.

It is acknowledged that MET faces specific challenges as a result of STCW and, in no particular order, these challenges relate to:

- technical and teaching competence of staff;
- quality of equipment and facilities;
- implementing a competency based approach to training;
- gaining approval from the marine administration to provide specific training and retaining that approval through regular auditing.

Considering each of these challenges in turn it is possible to identify some key measures which should assist a MET institution to evaluate the quality of its performance.

TECHNICAL AND TEACHING COMPETENCE OF STAFF

Some key measures of quality include:

- technical competence and qualifications of staff;
- teaching competence and qualifications of staff;
- staff recruitment processes;
- staff development programs;
- quality of graduates.

QUALITY OF EQUIPMENT AND FACILITIES

Some key measures of quality include:

- variety, age and relevance of equipment;
- maintenance of equipment;
- manner in which equipment is used in teaching and testing;
- standard of teaching facilities;
- quality of graduates.

IMPLEMENTING COMPETENCY BASED TRAINING

Some key measures of quality include:

- educationally qualified staff capable of proper curriculum design;
- curriculum documents aligned with STCW 95;
- curriculum documents in CBT format;
- testing methods used to determine competence;
- quality (competence) of graduates.

APPROVAL AND AUDIT

Some key measures of quality include:

- skill level of MET and marine administration staff;
- approval/audit process;
- approval/audit outcomes;
- quality of graduates.

Assuming that attaining the attributes of a quality MET institution is an aim common to all then a critical issue is just how such an aim can be achieved. A multi-pronged approach offers some hope and this should include:

- developing an institutional culture of self evaluation, desire to improve and continuous improvement;
- focusing on upgrading the technical, teaching, testing and course design skills of the staff;

- adherence to STCW 95 but recognising it is a minimum standard;
- being innovative in identifying new business and generating income: being highly focussed on core business in the budgeting process, and competent in managing expenditure;
- being aware of the threats from competitors but also the strength of networks and partnerships.

Whilst it is evident that the extent to which a MET institution can measure the quality of its own performance is limited by resources, management commitment and staff capabilities it is nevertheless important that this occurs if the aspirations of STCW 95 are to be achieved. Regardless of constraints there are many things a MET institution can do within the organisation to ensure the core business activities are carried out in a professional manner; benchmarking assists in achieving this objective.

BENCHMARKING

To paraphrase McKinnon et al [3], no single MET institution can encompass all maritime knowledge. Every MET institution has to make choices. It is demanding to be world class in even a few maritime academic fields. Each MET institution has to prioritise the use of its resources and use them to best effect but knowing whether it is succeeding in its aims is another more demanding level of difficulty. The key consequential question is how do we in MET know where our institution stands in relation to others and how can we improve our performance.

Benchmarking is not a new concept but within and between MET institutions its use is rare. It can be used for three distinct and important purposes, namely:

- to ascertain performance trends so as to initiate continuous self improvement activities;

- to compare performance between institutions in mutually agreed areas;
- to determine one's competitive position relative to others.

Whilst it is true that all MET institutions are, or should be, deeply concerned about their finances, in most aspects of their performance MET institutions should be measured by criteria other than profit or return on assets. This is because the primary functions of a MET institution is to teach, research and provide services to the maritime community - it is performance in these areas that should be treated as priority measures.

How then should the process of benchmarking be approached? Chang and Kelly [4] identify a seven step process to follow, namely:

- identify what to benchmark;
- determine what to measure;
- identify who to benchmark;
- collect the data;
- analyse data and determine gap;
- set goals and develop a plan;
- monitor progress.

As a process this is not particularly difficult to follow but it is evident that there are innumerable possible activities which could be measured. In the context of Australian Universities McKinnon et al [5] identify twenty five benchmarks which are listed in Table 1 and which they consider to be valid for all types of universities. As MET is but one part of the overall education and training system it is not unreasonable to consider that some or all of these twenty five benchmarks have validity in the context of MET.

Table 1: Twenty five core benchmarks

1. Governance and Leadership
2. University-wide Planning
3. Clearly Defined Lines of Responsibility
4. Organisational Climate
5. Reputation

6. Competitiveness
7. Operating Result
8. Commercialisation: Net Return on Equity
9. Strategic Asset Management
10. Space Management
11. IT & T Infrastructure
12. Learning and Teaching Plan
13. Fitness of Courses
14. Student Satisfaction
15. Employability of Australian Graduates
16. Student Administrative Services
17. Research Higher Degree Completions per Academic Staff
18. Weighted Research Publications per Academic Staff
19. Research Impact
20. Library and Information Services: Contribution to Teaching and Learning
21. Library and Information Services: Provision of Support for Research
22. Culture of Internationalisation
23. Balanced Onshore International Student Programme
24. Strategic Human Resources Planning
25. Career Development/Staff Effectiveness

These twenty five benchmarks have been chosen because they focus on the things which are considered to really matter in the context of university education.

In order to illustrate how such benchmarks are used the benchmark related to Fitness of Courses, McKinnon et al [6], is reproduced at Appendix 1 as an example. Here are illustrated the key points of any benchmark namely:

- rationale;
- data sources;
- good practice;
- levels of performance;
- assessment.

Whilst one could debate the detail of any benchmark the real point is that if we as professional educators and teachers do not know how well we and our institutions are performing then how will we really know if we

have achieved the broad aims of STCW 95. Approval by a marine administration is surely a minimalist approach.

Benchmarking then should be seriously considered by any MET institution which aims to both understand how well it is performing and what it needs to do to improve its performance.

CONCLUSION

It is not particularly difficult to identify the attributes of good quality MET institutions. However, attributes tend to be subjective and are, thus, open to question. It is not particularly difficult to become a quality assured MET organisation. However, quality assurance is only a way of proving that what you say you do is what you actually do and, as such, does not indicate how well the institution is performing. Benchmarking is all about performance and, as such, is the fundamental base upon which continuous self improvement should be built.

For all of us in MET benchmarking offers the opportunity for improved performance which, surely, is in line with the broad objectives of STCW 95. But where to start? Much has been written on benchmarking in general but as Macneil et al [7] suggest, benchmarking is not hard but it is different. The International Association of Maritime Universities could facilitate a pilot project amongst a few of its members, or a group of like minded MET institutions might agree to benchmark amongst themselves. Whilst the way forward is debatable it is clear that as the turmoil of STCW 95 is overcome we must not become complacent and believe the task is complete. As MET institutions we must understand how well we are performing and this is where benchmarking has its role.

To paraphrase Evans [8], benchmarking is a good starting point for anyone wanting to run a better MET institution. Benchmarking won't show you how to do things better, but it will

highlight those areas you need to work on to improve performance.

REFERENCES

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5. McKinnon et al, op cit, p148.
6. McKinnon et al, op cit, p82.
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Appendix 1

Area : Quality assurance

Element : Fitness of courses

Type : Learning

Benchmark rationale : Benchmarking the quality of courses and their outcomes against the desired characteristics of graduates, as determined by a particular university, tests how well each course is achieving what it has set out to do, that is, the fitness of its courses.

Sources of data : The benchmark relies on data from other benchmarks (eg, 4.2 Competitiveness; 6.7 Student Progress; and 6.10 Student Satisfaction), plus student assessments of teaching, employer surveys.

Good practice

The fitness of courses to achieve the characteristics desired of graduates of that university depends upon six factors:

- turning each of the desired attributes into operational requirements (mastery of content and professional skills outcomes are easier than attributes such as communication ability, leadership, ethical standards);
- incorporation of operational requirements into courses;
- successful teaching to those criteria;
- the tightness of fit between course requirements and the desired characteristics;
- evidence of continuous improvement, based on specific appraisals of the desired outcomes;
- evidence of value adding, that is, that graduates do acquire and are aware that they have the target; knowledge, skills and attitudes, that they realise how to apply these to best effect, and that they desire to continue increasing them.

Good practice will monitor how much value adding for students is occurring, that is, how well the teaching approach is geared to the preparation of the learners, engages them in learning and achieves high standard outcomes.

Good practice also requires that a feedback cycle, integrating evidence from graduates and employers, ensures that the fit between the course and the desired attributes is constantly getting closer.

Levels

1	2	3	4	5
<p>The attributes desired of graduates are not defined.</p> <p>Course objectives are defined separately for each course and may bear no resemblance to the desired attributes of graduates.</p> <p>There is no feedback cycle.</p> <p>Modification of course proceeds on traditional discipline criteria. Evaluation of outcomes by graduates and employers not undertaken.</p>		<p>The attributes desired of graduates are defined. There are substantial attempts to incorporate the attributes into the courses, but teaching to those outcomes is not specific. There is no feedback cycle. Modification of courses proceeds on more traditional discipline criteria.</p> <p>Some evaluation of outcomes by graduates, and employers.</p>		<p>The attributes desired of graduates are defined. There are universal on-going attempts to incorporate the attributes into the courses in all units and to teach for those outcomes.</p> <p>There is an integrated feedback cycle when the outcomes of courses, evaluated by peers, graduates and employers, are mapped to the desired attributes.</p> <p>Actual outcomes lead to modification of courses, teaching and learning arrangements, or conversely, the attributes are modified.</p>

Self assessment :

Check assessment :