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ABSTRACT

There is now a need, just like in industry, for quality assurance in education, for injecting systematically planned and formal processes, precise definitions, objectivity, and measurability in education. The demand for educational excellence in industry is "out there," and companies in more advanced countries are partnering educational institutes in meeting their own needs. The generic standards and guidelines of the International Organization for Standardization (ISO) have identified and described 20 elements of a quality assurance system. When companies comply with these standards through implementing quality procedures, they can be audited to see if they meet ISO quality standards, and obtain ISO 9000 certification. In advancing a case for quality assurance in English for specific purposes (ESP) programs, this paper discusses basic ESP concepts and describes the systems approach to ESP design and implementation, showing how the ISO 9000 elements of quality have application in ESP. The paper focuses on design specifications to indicate the existence of parallels, then suggests logical extensions of ESP design specifications that allow for closer parallelism. In ESP, design and implementation are concept and practices that fit with ISO 9000 quality assurance requirements, from the central idea of tailor-made courses and specification of objectives in performance terms, to needs analysis of target learning situations, to formative and summative program evaluations and feedback on teaching effectiveness to continuous re-design of curriculum and improvement of training. (JP)

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CASE FOR QUALITY ASSURANCE IN ESP PROGRAMMES

1 Quality in Industry and Education

1.1 The world of business and industry has for a long time recognised the need to assure the quality of their products and services. This is even more critical today as companies gear themselves up for the next century. Today, as never before, competition for markets, whether regional or global, has become razor-edged. Technological advancements have increased at such breakneck speed as to make obsolescence a household word in leading companies - the drive to get ahead of others is best exemplified by the strategy adopted by Sony of implementing new product designs even before their latest products are marketed, simply to provide a wider product range for consumer choice - AND to leave the competition two or more steps behind. Within this scenario, the quality of products and services has come to the frontfront as THE only way to remain in the game. The Japanese have been market leaders for decades now in part because of their concept of zero defects. And to compete with the Japanese, Western corporations like Motorola Inc have had to come up with their "Best in Class" concept and systems based on Six Sigma, or 3 defective parts per million as well as their corporate creed of total customer satisfaction. In Singapore, they have reached 5.7 Sigma, or 30 per million.

1.2 In Singapore, SISIR has been charged with quality standards in industry and has pushed ahead with ISO 9000 certification of companies. The National Productivity Board has promoted quality as productivity.

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1.3 Educational institutions have always aimed to promote and monitor academic standards. Striving towards academic excellence has been a common ideal. The concept of "quality education" was explored in education even before ISO 9000 came into existence. So what is new in the call for QA in education and training? Is it merely a new name for an ancient practice? In the past, the job of inspection and control in education was limited and far from being objective; the approach tended to be ad hoc and informal. There were then no independent means of verifying quality. No longer. There is now a need, just like in industry, to inject systematically planned and formal processes and procedures, precise definitions, objectivity, measurability in education.

1.4 Let us not be mistaken into thinking that education is still leading in its own field, calling, as it were "the shots". The demand for educational excellence is out there - in industry where our customers are. Not only that. Companies in more advanced countries are partnering educational institutes in meeting their own needs. They are in a good position to do this since they have the expertise and, through their key personnel, they can ensure that knowledge and skills upgrading is both relevant and timely. And as educationists and trainers are open to new ideas, it is perhaps also inevitable that the concept of QA should filter down to education and training.

2 ISO 9000 in Industry and Education

2.1 International agreement has been formally reached about the characteristics and features of sound and effective quality assurances practices in a company or organisation. The ISO 9000 generic standards and guidelines (1987) of the International Organisation for Standardisation (with over 90 member countries) have identified and described 20 elements of a Quality

Assurance system, covering the areas of organisational structure and responsibility, design and development of products, manufacturing, testing and inspection. The standards and guidelines describe elementary requirements of a quality assurance system for which procedures should be written and implemented. When companies or organisations comply with these standards through implementing quality procedures and documenting their quality systems, they can be audited to see if they meet ISO quality standards, and obtain ISO 9000 certification.

Clearly, companies with ISO 9000 accreditation have a competitive edge over others.

2.2 Can such an international standard of quality be adopted or adapted for education?

3 **The Benefits of QA in ESP**

3.1 Quality Assurance is defined in ISO 9000 as:

"all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality".

3.2 Quality Assurance implies quality control, ie having in place those "operational techniques and activities to fulfil requirements for quality.

3.3 A QA system clearly shows up the current position of an ESP support centre as well as its targeted future position. Where discrepancies exist between these two positions, ie where a quality gap exists, corrective action can be taken to narrow this quality gap. The quality gap can never be entirely closed because educational institutions have a moving target. Quality Assurance provides the means by which the gap gets progressively narrower, thus ensuring continuous, never

-ending improvement. The scope and advantages of assuring quality in ESP programmes are therefore obvious.

3.4 An ESP support centre gains visibility as a centre providing quality services in ESP.

4 Purpose of Paper

4.1 In putting forward a case for QA in ESP programmes, this paper discusses basic ESP concepts and describes the systems approach to ESP design and implementation, showing how the ISO 9000 Elements of Quality have application in ESP. It first focuses on design specifications to indicate the existence of parallels. It will also suggest logical extensions to ESP design specifications which will allow for closer parallelism. Design has been selected as the focal point to explain in detail the applicability of ISO 9000. It is not possible to spell out the details of the other ESP activities and systems within the constraints of this paper.

4.2 The paper shows that some of the basic terms used in SF are identical with, or derived from those used in industry. I must, however, at this point quickly add that the presence of such terms in education and training does not in itself automatically ensure similarity in meaning and usage or processes and procedures. The crux of the matter lies in the systems approach. Where it is fully adopted and implemented, parallels occur.

QUALITY AND ESP - MEETING SPECIFIC NEEDS

5 ISO 9000 Definition of Quality

- 5.1 ISO 9000 defines quality as, among other things,
- o "Fitness for the purpose"
 - o "Conformance to requirements which are measurable/definable"

- o "Totality of features and characteristics of services that bear on ability to satisfy stated or implied needs".

Such concepts of "quality" are indeed encapsulated in ESP theory and practice.

DESIGN SPECIFICATIONS IN ESP

6 Needs Analysis

6.1 ESP courses are commonly conducted by support centres in tertiary institutions. ESP courses design and implementation aim to meet the needs of customers/clients - students, departments serviced and prospective employers of graduates. An essential input to course design is a detailed analysis of customer/client needs, and it includes the following:

- o the nature of the target language;
- o the context in which the target language will be used;
- o the language abilities of the target students;
- o the language weaknesses of the target student;
- o the wants and constraints of the departments serviced, including time constraints;
- o the students' target jobs;
- o the availability of resources;
- o clients' expectations/feedback from industry.

6.2 A detailed needs analysis is thus an attempt to define in precise terms the language requirements of the customer. This is to ensure the relevance of the package of language skills for curriculum design. In SIO terms, this package would then "fit" the purpose.

7 Specification of Objectives

7.1 As its name implies, ESP is intended to meet specific learning objectives and needs. Hence teaching/learning

objectives are spelt out in behavioural or performance terms. They are concrete, realistic, attainable and measurable, thus fitting into ISO 9000's requirements for specification of 'quality' objectives. The specification of ESP teaching/learning objectives means that all concerned (lecturers, students, departments serviced, Polytechnic, industry) can know exactly what educational outcomes are expected, and if these objectives have been achieved at the end of the course.

7.2 It is no coincidence that specifications are the cornerstone of a product design, be it a Walkman, a cellular handphone, a computer programme written for a particular business operation, or an ESP course. It is well known that "starting right" for design begins with specifications. If "quality" is not injected at this stage, the end-product or deliverable invariably becomes "something else", ie not what the customer "had originally in mind". The main difference, perhaps, is that "hard", tangible products like a radio cassette player lend themselves more readily to measurable terms, to quantifiables than "software" like computer applications and ESP courses. This difference may be daunting. But, far from making quality design specifications unnecessary, they play perhaps a more crucial part in the design of software. It is well known that the courseware for the "harder" technical skills similarly lend themselves better to measurables than for the "softer" skills like language, service and management skills.

THE SYSTEMS APPROACH AND CURRICULUM REDESIGN

8 Other Components of Design

- 8.1 In drawing up specifications, curriculum developers in ESP have also to take into account the following:
- o the course content and structures in terms of knowledge, skills and attitudes;
 - o the approach and methods to be employed;

- o the resources needed - manpower, equipment and facilities;
- o the design of materials required to meet the teaching/learning objectives;
- o the training of teachers and the production of a teacher's guide or manual;
- o a test or dry run for feedback to refine the materials;
- o instruments for evaluating and monitoring student progress as well as the course itself;
- o course implementation and monitoring;
- o course review and re-design.

9 The Systems Cycle

9.1 In a Systems Approach, ESP design is a stage within the main system cycle. The design sub-system of processes and procedures flows in a closed loop within the main system. It ends where it begins, with a review of the course for possible redesign. This closed loop can also be termed a quality loop. Implementing the design sub-system amounts to quality assurance.

APPLICABILITY OF ISO 9000 TO ESP DESIGN

10 Elements of Quality in ISO 9000

10.1 ISO 9000 has identified 20 Elements of Quality as essential characteristics and features of a Quality System. They may be applicable to ESP design in the following manner:

Elements	Applicability
1 Management responsibility	The implementation of an ESP programme, especially its quality entails management commitment and a comprehensive management and administration system.

Elements	Applicability
2 Quality System	This encompasses the whole ESP systems cycle.
3 Contract review	This involves meeting the needs of immediate customers/clients (the departments/students and end-users ie industry).
4 Design	It clearly applies to curriculum design and other areas such as materials design, test design.
5 Documentation control	This is required in the quality policy statement, the objective statements, course description, syllabus, course materials, trainer guide, guidelines on exams/marking, student records, organisation chart, job descriptions, etc.
6 Purchasing	This involves the whole procedure of tendering, quotations, requisitions, the approval process, etc

Elements	Applicability
7 Customer owned equipment	This ascertains the usability of course materials, eg video-based instruction and computer-aided learning. For in-house training, the curriculum designer would have to know also what facilities companies have, including capacity of training room.
8 Traceability	This includes proper documentation, eg instruments for tracing student progress and application skills on the job.
9 Process control	Examples include teacher observation, vetting of exam papers, validation of exam results.
10 Inspection and test	Student assignments, class tests, exams, etc
11 Test equipment	Instruments for testing/evaluation, eg exam papers, test questions, test banks (computerised or manual), staff appraisal mechanism.

Elements	Applicability
12 Inspection and test status	Exams, tests and assignments and their results to indicate student progress and performance.
13 Non-conforming product	Student inadequacies at entry level, student failures, poor exam results, dropout rate.
14 Corrective action	Remediation before, during and after the course in terms of processes, resources and results.
15 Handling, storage & packing	This involves course materials, test and exam papers, marked exam papers, etc, including those requiring security procedures.
16 Quality records	All kinds of up-to-date documentation on practices affecting quality of services.
17 Quality audits	Audit of ESP support centre.
18 Training	Staff induction, in-service courses/seminars, staff development programmes.

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|---------------------------|--|
| 19 Servicing | Meeting the needs of the departments/companies serviced; internal and external customer reactions. |
| 20 Statistical techniques | Student attainment at entry, analysis of exam results, graduate survey data. |

INTEGRATION OF ESP SYSTEMS

11 Other ESP Systems

- 11.1 In going through each ISO Elements of Quality and their applicability to ESP, I am sure you must have noticed that I had to go beyond to ESP design and programme implementation systems; other related ESP systems were mentioned. This is unavoidable in any system that is fully integrated. In fact, it is only when the overall ESP System and all its sub-systems are integrated that ESP lends itself to ISO 9000 application.
- 11.2 The other ESP sub-systems I would now like to touch on are the following:
- o Management of Quality
 - o Staff training and development
 - o Materials design
 - o Monitoring Student Progress
 - o Examinations
 - o Survey of Graduates in Employment.

I have selected these sub-systems in order to show further that it is the inter-relatedness of these sub-systems that is responsible for quality.

12 Comprehensive Quality Management

12.1 For the system to work, it is essential for a Comprehensive Management of the Quality System to be put in place. The three key areas of such management are results, processes and resources. This includes management commitment, the delegation of responsibility and authority, the allocation of resources, etc. These in turn entail a management policy or mission statement, and policy statements on each of the components of delegation, resource allocation, etc and the entire administration system.

12.2 Successful business organisations tend to be highly organised. ESP support centres also need to be efficiently organised to ensure quality processes and quality results. It is important to have detailed job specifications of the staff charged with the various responsibilities and a clear delineation of their authority. This promotes commitment to jobs, smoothens flow of work, greater team-work and greater overall productivity, as the lines of command are clear and staff are empowered to undertake their various roles.

13 Staff Training and Development

13.1 As teaching is a central activity in any educational set-up, staff training is another vital aspect of quality in education. Special care should be taken to help new staff know and understand the ESP rationale and approach and to become comfortable and efficient in using the ESP materials. It is necessary to pay close attention to guiding staff teaching SP courses, and to coordinate teaching undertaken by a team to ensure that syllabuses are followed and materials are effectively used. Staff appointed as subject leaders plan the courses and prepare the syllabuses and weekly schemes of work. They hold briefing and feedback sessions with

team members to clarify what needs to be done and discuss how it is to be done as well as deal with problems as they arise.

- 13.2 A necessary practice is observing teachers in the classroom. Senior members/subject leaders observe lecturers teach in the classroom in order to give useful feedback and guidance for improving their teaching performance. Lecturers can also obtain feedback on their teaching from their students using questionnaire forms designed for the purpose.
- 13.3 Besides standard guidelines to staff, in-house seminars on teaching ESP can also be conducted for the teaching staff.
- 13.4 An open staff appraisal system complements staff training efforts. Based on the training needs identified, a formal plan can be drawn up for staff upgrading. Ngee Ann's 5-Year Rolling Plan for Staff Development is reviewed and updated every year.

14 Materials Design

- 14.1 The process of designing an ESP curriculum is inseparable from the activities and processing involved in ESP materials preparation. Appropriate materials that enable the learner to achieve the educational outcomes specified have to be put together or adapted from published books or in most cases, specially written by the teaching staff. The instructional materials are tried out in the classroom, modified in the light of experience and made available to other staff (including the staff of the departments serviced) for their comments and endorsement. Guidelines on the use of these materials are written to help the teaching staff use them effectively. Courses and course materials are

formally evaluated regularly. At Ngee Ann, this is done through the mechanism of Subject Evaluation. This assures continuous revision and upgrading of teaching materials and continuous re-design of curriculum to meet specified teaching/learning objectives.

- 14.2 These activities parallel those in industry when they conduct "prototyping", "market testing", "trial" or "dry runs". Again, the intention is similar, that is among others, to test for usability and to prepare manuals on the product.

15 Monitoring Student Progress

- 15.1 Careful monitoring of student progress is an important process. ESP support centres are accountable to the departments they provide support services to. The need to monitor student performance on the ESP programme is therefore crucial.

Ngee Ann Polytechnic requires students to satisfy 80% attendance at lectures and tutorials. The system for monitoring student progress includes:

- o reports on absenteeism;
- o reports on poor performance;
- o warning letters to students;
- o student counselling and
- o peer tutoring.

16 Examinations, Setting and Moderating Exam Papers/Assignments and Marking

- 16.1 A formal system of appointing external examiners and moderators and for standardising marking helps to control quality in assessing students. An external examiners system provides further checks on the standard of assessments and the results achieved by students.

Computerising the results and statistical analyses can reveal trends and anomalies in an examination or test and appropriate corrective action can be taken. Thus a system of checks and balances exist to counteract subjectivity and unfairness in an institution's assessment process.

17 Survey of Graduates in Employment

17.1 A regular survey of graduates in employment enables the organisation to continually monitor and assure the marketability and performance standards of graduates. Ngee Ann Polytechnic's annual surveys provide important feedback on the relevance and effectiveness of its training programme and are used for continuously modifying and improving the programme.

17.2 Establishing the procedure of obtaining information on the "product" - in this case the curriculum package or the enhancement of the students or "value added" to the students in terms of the knowledge, skills and attitudes acquired - is the means of assuring the quality of the results of the training offered. It includes identifying "non-conforming products" or student failures. In education and training, assuring results is not so much ensuring success as reducing failure; poor quality needs to be prevented rather than detected and corrected. The concept of quality results is tied to whether an institution has a quality system which is audited. Assuring the quality of results is interrelated with assuring the quality of the teaching/learning and testing processes and the quality of resources provision, and the control of these activities through systematic documentation.

18 Documentation Control

18.1 Most ESP support centres have records of some of their established criteria, teaching/learning objectives, course materials, examination records, staff appraisal system. However, other procedures and processes need to be written up, eg detailed job descriptions, guidelines for standardising marking, so that the organisation can provide a comprehensive documentation of its activities, procedures, processes, resources and results. Quality documentation must be established and updated to provide answers to specific questions involving Who, What, When, Where, Why and How. Documentation control will make visible and acknowledgeable the QA system that is in place in the organisation. All the necessary information will be made accessible to the relevant people. The QA system is then open to independent verification through external auditing.

19 Conclusions

19.1 Thus we see that in ESP design and implementation are basic concepts and practices that fit in with ISO 9000 QA requirements, from the central idea of tailor-made courses and specification of objectives in performance terms, to needs analysis of target learning situations, to formative and summative programme evaluations and feedback on teaching effectiveness to continuous re-design of curriculum and improvement of training.

19.2 Quality Assurance is most pertinent to ESP, focusing as both do, on the following concerns:

- i) customer/client
- ii) specification of objectives/measurable outcomes
- iii) systematic approach/assurance
- iv) strategic control
- v) comprehensive documentation
- vi) continuous improvement

vii) involvement of all/total management

Establishing a fully documented QA system in ESP amounts to describing what is done (not what we should do) in ESP programme design and implementation; checking to see that all the ISO Elements are included; actually doing what is described; recording what is done; and continuously revising and improving the programme.

A further stage can be an audit of the ESP programme or support centre. An audit is an independent examination of quality to establish facts about the system and its operation. It looks at actual practices against concept of quality or what is in the documented procedures. It is a scheduled activity undertaken by trained auditors. A successful quality audit results in ISO 9000 accreditation giving an organisation the prestigious international stamp of quality.

Documents on Quality Assurance

- o ISO 9000 Document
- o ISO 9001 Document
- o Prof. Walter Willborn
Professor/Quality Management, University of Manitoba, Canada
"Quality and Quality Assurance in a School"
- a lecture at Hilton Singapore, 1992
- o A paper on "Quality Assessment" Higher Education Funding
Council, England, October 1992
- o Course Notes for Quality Systems Documentation
- Ngee Ann Polytechnic Diploma Course in Quality Assurance
1993
- o Conference Programme Nov/Dec 1992
Sandwell College, UK
- o Engineering Professors' Conference
"Quality Assurance in Higher Education
- A Discussion Document prepared by the EPC Working Party on
Quality Assurance March 1992)
- o CVCP Academic Audit Unit
Notes for the Guidance of Auditors (1992)