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## The Design of Quality Documentation System at Higher Education Using ISO 9000 Model

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### Abstract

As a part of national education system under the authorization of the Ministry of Education and Culture, the objective of Higher Education in Indonesia must be in line with those of national education, namely: Indonesian national education based on *Pancasila* to improve the quality of Indonesian students, human possessing faith and belief to A Supreme God, noble character, good personality, high discipline, hard working, tough and responsible, self reliant, smart, and skill as well as physically and spiritually well.

To achieve such objectives above, the Higher Education in Indonesia needs to own a high quality of performance in running their education activities. To put more clearly, there must be directive standards on teaching activities at Higher Education in order to produce qualified human resources as national education objectives mentioned above.

The research is aimed at observing the possibility of the implementation of the ISO 9000 in Higher Education to yield an expected standard. Specifically, the objectives of the research is to make assessment as well as to design quality documentation system based on the ISO 9000 model – A Translation for Education extended by Edward Salis. The Higher Education selected, as observation object is Institute of Home Affairs Governance.

The result of assessment using the elements of the ISO 9000 – A Translation for Education shows that the entire performance of Institute of Home Affairs Governance is a **weak** category. In other words, there are many aspects not yet associated with the ISO 9000 requirements – A Translation for Education.

What to do in the following step is to design quality documentation system for the ISO 9000 – A Translation for Education linked with academic activities in Institute of Home Affairs Governance, for the system already operated and still has weaknesses according to ISO 9000 requirements – A Translation for Education.

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*Keywords:* A Translation for Education; Higher Education; ISO 9000 Model

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## 1. Introduction

Higher Education in Indonesia is an organization engaged service education for Indonesian people. Activities undertaken Higher Education always refer to Three Responsibilities of Higher Education that include: education, research, and community service. As a part of national education system under the authorization of the Ministry of Education and Culture, the objective of Higher Education in Indonesia must be in line with those of national education, namely: Indonesian national education based on *Pancasila* to improve the quality of Indonesian students, human possessing faith and belief to A Supreme God, noble character, good personality, high discipline, hard working, tough and responsible, self reliant, smart, and skill as well as physically and spiritually well.

To achieve such objectives above, the Higher Education in Indonesia needs to own a high quality of performance in running their education activities. To put more clearly, there must be directive standards on teaching activities at Higher Education in order to produce qualified human resources as national education objectives mentioned above.

One of the most popular quality management system standards now, and has been adopted by more 70 countries, is ISO 9000. At first, this standard only be considered as a market driven, but in its development, it provides a lot of value added for the companies that apply this standards, such as the increasing of productivity and efficiency, decreasing of cost, and increasing of customer satisfaction, so it began to be felt as a necessity for the companies. Edward Salis had developed an ISO 9000 model for education that known as ISO 9000 – A Translation for Education. This research wanted to see how far the possibility of ISO 9000 implementation in Higher Education to produce standards expected by all parties.

## 2. Research Objective

- 1) Doing assessment to performance of quality system and quality management in Institute of Home Affairs Governance based on ISO 9000 requirements.
- 2) Designing documentation system appropriated for Institute of Home Affairs Governance based on ISO 9000 requirements.

## 3. ISO 9000 – A Translation for Education

At first, both British Standards Institution and International Standards Organization were just talking about manufacturing. The increasing of industry practices on professional services such as lawyers, architects, and management consultants, so the registration was start to be required. However, not enough educational practices provide definitive answers about the feasibility of ISO 9000 in education. Edward Salis had held a variety of adjustments of ISO 9000 into the world of education as in Table 1, called as the term of ISO 9000 – A Translation of Education, and then became elements of this research.

## 4. Research Method

The design used in this study was exploratory study. Through exploratory, the researchers developed the concept more clearly and make a priority. Some of the tools used in the exploratory study are: literature review, experience surveys, focus groups, and two-stage approach. Sources of data used in this study are as follows: (1) primary data, there are data obtained directly from the original respondents. In this study, the respondents were: students, lecturers, the leader of institute, faculties, and departments, staffs, and public society; (2) secondary

data, that are data obtained from the first data sources that has been collected and reported by other outside researchers, such as the organizations, number of employees, and the result of previous relevant studies.

Table 1 ISO 9000 – A Translation for Education

ISO 9000	Translation for Education
1. Management Responsibility	1. Management's Commitment to Quality
2. Quality System	2. Quality System
3. Contract Review	3. Contracts with Internal & External Customer (Student/pupil entitlements, & the entitlements of the external customer e.g. parents)
4. Document Control	4. Document Control
5. Purchasing	5. Selection and Admission Policy
6. Purchased Supplied Product	6. Pupil/Student Support Services, including Welfare, Counseling, and Pastoral & Tutorial Arrangements
7. Product Identification & Traceability	7. Records of Pupil/Student Progress
8. Process Control	8. Curriculum Development, Design & Delivery – Teaching & Learning Strategies
9. Inspection & Testing	9. Assessment and Testing
10. Inspection, Measuring & Test Equipment	10. Consistency of Assessment Method
11. Inspection & Test Status	11. Assessment Records including Records of Achievement
12. Control of Nonconforming Product	12. Diagnostic Procedure & Methods of Identifying Underachievement & Failure
13. Corrective Action	13. Corrective Action of Pupil/Student Underachievement & Failure, The System for Dealing with Complaints and Appeals
14. Handling, Storage, Packaging & Delivery	14. Physical Facilities & Environment, Other Entitlement Offered e.g. Sport Facilities, Clubs & Societies Unions, Drop-In Learning Facilities
15. Quality Records	15. Quality Records
16. Internal Quality Audits	16. Validation Procedures & Internal Quality Audits
17. Training	17. Staff Training & Development, including Procedures for Assessing Training Needs & Evaluating The Effectiveness of Training
18. Statistical Techniques	18. Methods of Review, Monitoring & Evaluation

The next step was data collection. This step has an objective to collect information about actual condition of quality management system in Institute of Home Affairs Governance. The data collection was done through some ways, namely:

- Interview that was guided by the use of questionnaire, made with focusing to assessment criteria explained above;
- Documentation of Institute of Home Affairs Governance related to research problems.

The assessment system was done based on scoring method, because the assessment developed was focused to see the appropriateness between actual conditions and standards, related to the existence of quality system element required ISO 9000. So, the questionnaire was not the assessment of internal party preferences about good or bad actual management system of Institute of Home Affairs Governance.

Each question in the questionnaire has own score, with 10 is the maximum score. The accumulation of questions score formed score for each element with 90 is the maximum score. Considering that quality system and quality management in Higher Education was specific, so the assessment obtained from respondents will be changed into the same of scale score that are 0-100. The assessment structure completely can be seen in Table 2.

Table 2 Structure of Questionnaire Assessment

Element	Number of Item	Maximum Score
1. Management's Commitment to Quality	9	90
2. Quality System	3	30
3. Contracts with Internal & External Customer	5	50
4. Document Control	7	70
5. Selection and Admission Policy	5	50
6. Pupil/Student Support Services	4	40
7. Records of Student Progress	4	40
8. Curriculum Development, Design & Delivery	9	90
9. Assessment and Testing	3	30
10. Consistency of Assessment Method	5	50
11. Assessment Records including Records of Achievement	4	40
12. Diagnostic Procedure & Methods of Identifying Underachievement & Failure	7	70
13. Corrective Action of Student Underachievement & Failure	4	40
14. Physical Facilities & Environment	5	50
15. Quality Records	4	40
16. Validation Procedures & Internal Quality Audits	5	50
17. Staff Training & Development	7	70
18. Methods of Review, Monitoring & Evaluation	5	50
Amount	95	950

However, the interpretation of each element can be seen in Table 3.

Table 3 Interpretation of Criteria Assessment Score

Score Interval	Category	Description
$0 \leq P < 25$	Nil	Practically there is no appropriateness with the requirement of ISO 9000 standards
$25 \leq P < 50$	Weak	Many aspects were not appropriate with the requirement ISO 9000 standards
$50 \leq P < 75$	Fair	Many aspects that were appropriate with the requirement of ISO 9000 standards
$75 \leq P < 100$	Strong	Most aspects that were appropriate with the requirement of ISO 9000 standards

P: score in 100 scale

To see the performance of Higher Education quality system at whole, score each element was summed then converted into 0-100 scale, so it will be visible the category of Higher Education quality system performance as shown in Table 3 above.

Data processing that was done on the next step cover the calculation of each element performance score and the sum of whole element. Processing method used is scoring method, with the objective to gain performance score for element that was measured. The steps are as follows:

- To add item score of each quality system element to gain each element performance score;
- To add each element of quality system score to gain Higher Education performance score based on the requirement of ISO 9000 – A Translation for Education;
- To transform performance score above into scale of 100 to uniform maximum score of the whole of quality system element.

Next step is analysis with the main focus to:

- Performance of Higher Education quality system elements and its interpretation;
- Analysis of Higher Education quality records and documents;
- Analysis of running system in Higher Education.

Based on the result of analysis above, so the next step is designing quality documentation system for Higher Education that consists of Level I Document (Higher Education Policy); Level II Document (Work Procedures); and Level III Document (Work Instruction and Supported Documents).

## 5. Result

Table 4 Performance Score of ISO 9000 – A Translation for Education Elements

Element	Assessment Result	Maximum Score	Score (Scale of 100)
1. Management's Commitment to Quality	25	90	27,78
2. Quality System	5	30	16,67
3. Contracts with Internal & External Customer	30	50	60,00
4. Document Control	0	70	0,00
5. Selection and Admission Policy	35	50	70,00
6. Pupil/Student Support Services	15	40	37,50
7. Records of Student Progress	25	40	62,50
8. Curriculum Development, Design & Delivery	50	90	55,56
9. Assessment and Testing	20	30	66,67
10. Consistency of Assessment Method	25	50	50,00
11. Assessment Records including Records of Achievement	30	40	75,00
12. Diagnostic Procedure & Methods of Identifying Underachievement & Failure	30	70	42,86
13. Corrective Action of Student Underachievement & Failure	20	40	50,00
14. Physical Facilities & Environment	40	50	80,00
15. Quality Records	10	40	25,00
16. Validation Procedures & Internal Quality Audits	15	50	30,00
17. Staff Training & Development	35	70	50,00
18. Methods of Review, Monitoring & Evaluation	5	50	10,00

Amount	415	950	43,68
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Table 5 Interpretation of Each Element of ISO 9000 – A Translation for Education

Group	Score Interval	Category	ISO 9000 Quality Element
1	$0 \leq P < 25$	Nil	Document Control Methods of Review, Monitoring, & Evaluation Quality System
2	$25 \leq P < 50$	Weak	Quality Records Management's Commitment to Quality Validation & Internal Quality Audits Pupil/Student Support Services Diagnostic Procedures & Methods of Identifying Underachievement & Failure THE WHOLE OF PERFORMANCE
3	$50 \leq P < 75$	Fair	Consistency of Assessment Methods Corrective Action of Student Underachievement & Failure Staff Training & Development Curriculum Development, Design and Delivery Contracts with Internal & External Customers Records of Student Progress Assessment & Testing Selection & Admission Policy
4	$75 \leq P < 100$	Strong	Assessment Records including Records of Achievement Physical Facilities & Environment

## 6. Discussion

The grouping above shows the performance difference among each quality system element. The performance difference indicates the degree of appropriateness of quality system and standards requirement, which also shows the weak point of standards. Table 6 below shows the strength and the weakness of each element of quality system in Institute of Home Affairs Governance.

Category	ISO 9000 Quality Element	Strengths	Weaknesses
Nil	Document Control  Methods of Review, Monitoring, & Evaluation		No document master list, no written procedures to identify, publish, and replace documents, no responsible parties. No method that be committed by all parties about monitoring and evaluation; no identification, usage, and evaluation of the methods

	Quality System		used  No quality guidance, no procedure and work instruction based on the requirements of ISO 9000
Weak	Quality Records  Management's Commitment to Quality  Validation & Internal Quality Audits  Pupil/Student Support Services  Diagnostic Procedures & Methods of Identifying Underachievement & Failure	There is quality policy  Internal quality audits every year There are academic supervisors There improvement action	No guidance and system to identify, use, maintenance and replace of quality records. No job description; no work instruction; no management representative; documentation of management review result is still weak No follow up of audit results Not effective and no written procedure No written procedure, the causes of failure are not identified
Fair	Consistency of Assessment Methods  Corrective Action of Student Underachievement & Failure  Staff Training & Development  Curriculum Development, Design and Delivery  Contracts with Internal & External Customers  Records of Student Progress  Assessment & Testing	There are assessment method to evaluate student achievement There are corrective action to help students who are fail There are training program depends on the invitation from another party There are curriculum based on national curriculum The requirements of student and lecturer are complete Records of student progress are well documented. Records of assessment and testing are well documented.	Rarely to evaluate the methods  Rarely to evaluate corrective action  No initiative to create training based on needs assessment  No written procedure and work instruction for lecturers No written procedure  No written procedure  No written procedure

	Selection & Admission Policy	<ul style="list-style-type: none"> <li>- There are special committees for new admission.</li> <li>- Clear criteria for new admission and lecturer</li> </ul>	No written procedure
Strong	<p>Assessment Records including Records of Achievement</p> <p>Physical Facilities &amp; Environment</p>	<p>There are some records about student status and achievement completely.</p> <ul style="list-style-type: none"> <li>- There are many physical facilities that can be used by lecturers, students, and staffs.</li> <li>- The responsible of physical facilities inventory, store, and maintenance has been defined, that is under Affairs Section authorization;</li> <li>- The activities of inventory, store, and maintenance have been run well that proofed by tidy records about it.</li> </ul>	<p>No written procedure to identify student status and achievement.</p> <p>No written and documented procedures for the activities of physical facilities inventory, store, and maintenance.</p>

## 7. Closing

- 1) The whole of quality system performance in Institute of Home Affairs Governance based on ISO 9000 – A Translation for Education was include weak category. It means many aspects were not appropriate with the requirements of ISO 9000. The un appropriateness indicator are:
  - No job description for all function;
  - Work procedures just cover some works;
  - No written work instruction for all works;
  - No good controlling about quality records and documents.
- 2) The reform priority that must be done by Institute of Home Affairs Governance in order to improve the process of education service providing was the design of quality documentation system that appropriate with the requirements of ISO 9000 – A Translation for Education.



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