

A Comparative Study on the Current TESL Curriculum: Identifying a Match for Industry Revolution (IR) 4.0

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ABSTRACT

This paper examines TESL curriculum and how the curriculum relates to the training of the super skills needed in Industry Revolution 4.0 (IR 4.0). Specifically, a comparative study on several TESL programmes offered in several public universities in Malaysia will provide the common trend among the universities and specific strengths of each university. Focus of comparison includes the programme outcomes (PO), discipline core courses offered, methods of delivery and assessment. The comparisons are made to shed some lights on how universities are providing relevant training for the pre-service English language teachers in meeting the demand of Industry Revolution 4.0. In addressing the relevance of the curriculum, a discussion on the super skills needed for IR 4.0, IR characteristics and components will be briefly provided. Findings that address the strengths and rooms for improvement in the current TESL programme curriculum in meeting the need of IR 4.0 could benefit policy makers, curriculum developer and TESL trainers.

Key words: TESL Curriculum, Industry Revolution (IR) 4.0, Super Skills

INTRODUCTION

One of the Key Performance Indicators (KPIs) of every university is Graduate Employability (GE). The Ministry of Higher Education (MOHE) has targeted 80% of GE as the KPI for every university. It is comforting to know that many universities are able to achieve this KPI (Ministry of Higher Education, 2018). However, it is equally important to look at individual faculty's GE percentage. It is possible that there are programmes which do not meet the minimum percentage for GE as targeted by MOHE. One factor that relates directly with GE is the ability to meet the needs of the industry.

Of late, there is a growing interest in Industry Revolution 4.0 (IR 4.0). The influence of IR 4.0 is obvious that MOHE has identified several innovative measures to prepare graduates for IR 4.0. Closer to the heart of every faculty is their curriculum. In staying relevant for IR 4.0, curriculum needs to be reviewed and changes may need to be done in order to cater to the needs of IR 4.0. Although the Science and Technology as well as Business and Management clusters may have direct effects of IR4.0, Faculty of Education, one of the faculties under the Social Sciences and Humanities cluster is not exempted from catering to the needs of IR 4.0. This paper addresses such issue when it attempts to study the TESL curriculum in terms of the programme outcomes, discipline core and elective courses, methods of delivery and assessment and how these aspects are reflective of the training of the ten super skills in IR 4.0.

LITERATURE REVIEW

TESL Curriculum

Teaching of English as a Second Language (TESL) is one of the most popular education academic programmes offered in any Faculty of Education. Besides adhering to Malaysian Quality Framework, the reference to Malaysian Teacher Standards, and Malaysia Education Blueprint 2013-2025 are also mandatory when developing the curriculum. A more complete list of references needed in developing curriculum for education programmes is as follows;

- The Malaysian Qualification Framework (MQF)
- The Code of Practice for Programme Accreditation (COPPA)
- The Code of Practice for Institutional Audit (COPIA)
- Guidelines to Good Practices (GGPs)
- Malaysian Teacher Standards
- Malaysian Education Quality Standards
- Pedagogical Standards for Language Teaching
- Malaysia Education Blueprint 2013-2025
- Malaysia Education Blueprint (Higher Education) 2015-2025

As is the case for any other academic programmes, TESL programme has to obtain programme accreditation from the Malaysian Quality Agency (MQA) prior to it being offered. Hence, ensuring the programme has the specified eight domains of learning outcomes is pertinent. The learning outcomes comprise;

- a) knowledge
- b) practical skills
- c) social skills and responsibilities
- d) values, attitudes and professionalism
- e) communication, leadership and team skills
- f) problem solving and scientific skills
- g) information management and lifelong learning skills
- h) managerial and entrepreneurial skills

Being offered as a degree programme, a bachelor's degree in TESL is offered as an MQF level 6 programme with a minimum total credit hours of 120. The following Table 1 summarizes one of the most common curriculum structure for TESL programme.

For the purpose of the study, only the following aspects of the curriculum were investigated; Programme Outcomes (PO), discipline core and elective courses, methods of delivery and assessment.

Industry Revolution 4.0 (IR4.0) and the TEN Super skills

Since the World Economic Forum 2016 emphasized on the emerging needs of Industry Revolution 4.0 (IR4.0), there has been a growing interest on the role of universities in preparing graduates who could fulfill the competencies required in IR 4.0. The Malaysian Ministry of Higher Education, the Ministry awarded as the most innovative Ministry in 2017 by the Prime Minister has taken serious and immediate measures to ensure all universities are gearing towards relevant preparation. Such transformative initiatives include curriculum reviews. The recent mandate for the year 2018 by the Minister specifically mentioned the need for universities to develop fluid and organic curriculum. Echoing the fluid and organic curriculum is the need to provide the latest learning and teaching technologies, 21st century pedagogy and to redesign learning spaces (MOHE Minister Mandate 2018).

IR 4.0 revolves around the concept of automation and data exchange, which include cyber-physical systems, the internet of things (IoT) and cloud computing. It could be concluded that IR 4.0 is the way forward upon various past industrial revolutions (Lasi et al, 2014).

According to PwC's 2016 Global Industry Survey (retrieved from www.pwc.com/industry40), there are several characteristics of IR 4.0 which are interconnection, data, integration, innovation and transition. The components of IR 4.0 include artificial intelligence, industrial internet, industrial cloud computing, industrial big data, industrial robot,

3D printing, knowledge work automation, industrial network security and virtual reality.

Gray (2016) and World Economic Forum (2016) summarized that the advancement of digital economy, robotics and autonomous transport, artificial intelligence and machine learning, cutting-edge materials, biotechnology and genomics are the identity of IR 4.0.

In line with the characteristics and components of IR 4.0, there also exists a need to possess the 21st century skills. Commonly known as the TEN super skills, the 21st century skills need to be developed and trained while the students are in the university regardless of what their academic programme is. It is apparent that automation and artificial intelligences are central in the IR 4.0. Nonetheless, there are still human related abilities that remain relevant making them important virtues of the human talents sought by the next industrial era. Educators at all levels of education need to prepare students to adopt a beginner's mind – to question, to learn, to unlearn and relearn - to help them thrive in a world that is constantly changing (Lock, 2016). The growing demand for the 21st century's job seekers is concurrent with the needs of IR 4.0. The economy of the IR 4.0 capitalizes on digital technology, automation, and artificial intelligences. However, human attributes as warranted in the TEN super skills remain relevant for the 21st century needs and the looming 4IR. The training of the super skills needs to become an emphasis in innovative teaching and learning approaches. The following Table 2 summarizes the list of top ten super skills as reported in 2015 and 2020 by the World Economic Forum (2016).

METHODOLOGY

The purpose of this paper is to compare the current TESL curriculum across selected public universities in Malaysia. TESL programme currently offered in three universities; University A, B, and C became the cases studied. In order to elicit relevant findings, document analysis was central in the research instrumentation. Additionally, a structured interview with five TESL lecturers from the universities was conducted. All of the lecturers are female aged between 30 and 35 years old. They were interviewed separately and the main purpose of the structured interview is to elicit information on how the programme develops the ten super skills in terms of the discipline courses offered, its methods of delivery and assessment.

For the purpose of the study, only the discipline core and elective courses were involved in the comparison among the

Table 1. Common TESL programme curriculum structure

No.	Component	credit hours	% of credit hours
1	University courses	24	20
2	Discipline core courses	36	30
3	Elective courses	24	20
4	Faculty courses (including Teaching practical/Field exposure & Final academic project)	36	30
	Total	120	100

Table 2. Top ten super skills in 2015 and 2020

	In 2015	In 2020
1	Complex problem solving	Complex problem solving
2	Coordinating with others	Critical Thinking
3	People management	Creativity
4	Critical thinking	People management
5	Negotiation	Coordinating with others
6	Quality control	Emotional intelligences
7	Service orientation	Judgement and decision making
8.	Judgement and decision making	Service orientation
9.	Active Listening	Negotiation
10.	Creativity	Cognitive Flexibility

three universities. Most importantly, the comparison was made to discover how the ten super skills were translated through the PO, discipline core and elective courses, methods of delivery and assessment. The following are the research questions.

- Are the programme outcomes (PO) reflective of IR 4.0 super skills?
- What are the common discipline core and elective courses offered in each university?
- How do the universities deliver the TESL programme?
- How do the universities assess their students in the TESL programme?
- How do the identified aspects of TESL curriculum provide the development of the ten super skills?

Documents involved in the analysis include the curriculum documents. The following aspects of the curriculum were compared;

- programme outcomes (PO)
- list of discipline core and elective courses offered
- methods of delivery
- methods of assessment

A checklist of the ten super skills was referred when confirming how the said super skills were translated through the identified curriculum aspects in each university.

RESULTS AND DISCUSSIONS

The discussions of the document analysis will be presented in the following order of comparison among the three selected universities; Programme outcomes, course contents (discipline core and elective courses), methods of delivery, and methods of assessment.

1. Programme Outcomes: Are the Programme Outcomes (PO) Reflective of IR 4.0 Super Skills?

The following are the enlisted TESL programme outcomes from all the universities. In determining whether the programme outcomes are reflective of IR 4.0 super skills, relevant keywords associated with the relevant attributes of the ten super skills were identified. The keywords are in bold.

University A:

PO1: Master and integrate knowledge of methods of teaching English as a Second Language.

PO2: Apply the skills of English Language teaching competently.

PO3: **Think critically, creatively and solve problems intelligently.**

PO4: Communicate effectively in English and function as an **effective leader or a member in the community.**

PO5: Manage and integrate ESL related information in English Language teaching in the practice of lifelong learning.

PO6: Display **professional attitudes, values, responsibilities and ethics** in the teaching profession.

PO7: Practice social responsibilities in line with the National Education Philosophy.

PO8: Practice entrepreneurial attitude, skills and **thinking as a culture.**

It is concluded that the programme outcomes from University A have reflected several super skills. From the list, PO 3 reflects three super skills, which are Complex Problem Solving, Critical Thinking and Creativity. PO 4 on the other hand reflects People Management and Coordinating with Others. Finally, while PO 6 reflects Emotional Intelligences, PO 8 reflects Critical Thinking.

It is noted however, the other four super skills namely Judgement and Decision-making, Service Orientation, Negotiation and Cognitive Flexibility are not obvious in the list of PO.

University B:

PO1: Demonstrate knowledge and skills in the teaching of the principles of English language teaching and learning, linguistics, literature, computer assisted language learning and teaching pedagogy.

PO2: Demonstrate knowledge, understanding and application of appropriate approaches, techniques and methodologies in English language teaching and learning processes.

PO3: **Integrate knowledge of information technology with theories** in the teaching and learning of the four language skills, linguistics, literature, computer assisted language learning and pedagogy.

PO4: Present theories, concepts and practice of language acquisition and teaching methodologies in the English language.

PO5: Demonstrate understanding of the various language areas such as linguistics, literature, computer-assisted language learning, through written and oral communication.

PO6: Present theories, concepts and practice of language acquisition and teaching methodologies in the English language.

PO7: **Work collaboratively as part of a team** undertaking different roles in a range of tasks.

PO8: Utilise a range of technical and information communication technology (ICT) resources to **independently acquire new knowledge and skills.**

PO9: Develop the ability and capability to **design teaching materials, tailor-made courses, language teaching and learning software and web pages.**

PO10: Practice **ethical and positive values** in the academic and professional endeavour.

PO11: Develop and practice **positive attitude** in the learning and teaching process.

From the enlisted PO, it could be seen that University B has indications of exposing and training their students with the super skills. PO 3 reflects super skills such as Complex Problem Solving, and Judgement and Decision-making. PO 7 on the other hand, reflects super skills such as People Management and Coordinating with Others. While PO 8 reflects Critical Thinking, PO 9 signifies the exposure and training of Creativity. PO 10 and 11 reflect attributes of Emotional Intelligences.

It is safe to deduce to this end that University B does not specifically highlights the following super skills in their PO; Service Orientation, Negotiation and Cognitive Flexibility.

University C:

PO1: Able to apply the knowledge of ESL and pedagogy in teaching of ESL.

PO2: Able to display technical and pedagogical skills in the teaching of ESL.

PO3: Demonstrate **social skills and responsibility for the well-being of society**.

PO4: Balance and **uphold positive values, attitudes and professionalism in societal and professional engagement**.

PO5: **Lead and collaborate with diverse team members and demonstrate effective communications**.

PO6: Able to **solve problems in a scientific and systematic manner** in the teaching of ESL.

PO7: Demonstrate the ability to **seek new knowledge independently**.

PO8: Display relevant and appropriate managerial and entrepreneurial skills.

University C has emphasized on several super skills exposure and training as seen from their PO. PO 3 reflects People Management and Coordinating with Others. PO 4 reflects Emotional Intelligences while PO 5 reflects the emphasis on People Management, Coordinating with Others and Negotiation. PO 6 reflects the ability of Complex Problem-solving as well as Judgement and Decision-making. Finally, PO 7 reflects the development of Critical Thinking.

University C however does not have clear indication of the exposure and training of Creativity, Service Orientation, and Cognitive Flexibility through their PO. The following Table 3 summarizes the findings for all three universities.

2. Course Contents: What are the Common Discipline Core and Elective Courses Offered in Each University?

The discipline core and elective courses offered could be grouped into several categories; language and linguistics, literature, TESL methodology and IT in TESL. The following Table 4 provides the list of the courses offered in the selected. From the table, it could be seen that all three universities offer similar range of courses under each categories (Language and Linguistics, Literature, TESL Methodology and IT in TESL). The strengths of University A are the courses offered under IT in TESL. Unlike the other two universities, University A offers ‘Social Media in Language Learning’ and ‘e-Methods in Literary Production’. This is indicative of University A’s proneness towards the integration of digital technology and smart learning and teaching applications.

University B unlike the other two universities, offers ‘Language Testing and Evaluation’ as one of the discipline courses. Further document analysis has confirmed similar course is offered as one of the faculty courses in University A and C. University C’s main strength on the other lies in terms of the series of courses offered under Literature. The series of Literature courses they have to offer seem to indicate a more comprehensive coverage of the subject.

3. Methods of Delivery: How do the universities deliver the TESL programme?

The following Table 5 summarizes the methods of programme delivery in each university.

Basically, it could be concluded that all three universities have similar variety in terms of their programme delivery. The methods of face-to-face delivery are similar across the three universities except University B and C which do not practice team-teaching. In regards to methods of non face-to-face, a similar pattern occurs except University C does not practice Flipped classroom. In short, it could be concluded that University A is ahead in terms of embracing 21st century pedagogy through the integration of a more comprehensive digital technology in their methods of delivery.

4. Methods of Assessment: How do the universities Assess Their Students in the TESL Programme?

The following Table 6 summarizes the methods of assessment in each university.

It is interesting to note that all three universities have a variety in their methods of assessment. The on-going assign-

Table 3. Summary of PO and ten super skills

Uni	Curriculum components	CPS	CT	C	PM	CWO	EI	JDM	SO	N	CF
A	PO	✓	✓	✓	✓	✓	✓	X	X	X	X
B	PO	X	✓	✓	✓	✓	✓	✓	X	X	X
C	PO		✓	X	✓	✓	✓	✓	X	✓	X

Table 4. Discipline core courses offered

University	Language & Linguistics	Literature	TESL methodology	IT in TESL
A 20 discipline core courses *Grand Total Credit Hours: 140	Foundation in English Structures in Context English Phonetics & Phonology Psycholinguistics in Language Teaching Sociolinguistic in Language Teaching Speech & Semantics in Language Learning & Teaching Introduction to Language Studies & Linguistics	Literature and the Media Malaysia in Narration Drama in School World in Contact	Teaching of Listening & Speaking Skills in an ESL Context Methods in TESL Teaching of Reading Skills in an ESL Context Teaching Writing Skills in an ESL Context Assessment in ELT Approaches to Teaching Literature in English in Malaysia Teaching Literature: Reading the Word and the World	Social Media in Language Learning e-Methods in Literary Production
B 21 discipline core courses *Grand Total Credit Hours: 126	Fundamentals of Grammar Oral Communication Skills Academic Skills for Teachers of ESL Structures of English Effective Writing Skills Linguistics I Linguistics II Sociolinguistics English for Specific Purposes Discourse Analysis	Introduction to Literature Literary Appreciation Literature in ELT	Methodology in TESL I Methodology in TESL II Language Learning Theories Curriculum Studies in English Teaching Macro Skills in TESL Language Testing & Evaluation Teaching English for Science & Technology	Computer-assisted Language Learning
C 19 discipline core courses *Grand Total Credit Hours: 128	Language Competency I Language Competency II Linguistics in Language Teaching Structure of English Applied Phonetics & Phonology Second Language Acquisition Creative Writing	Literature in English Appreciating Poetry Appreciating Prose I: World Literatures Appreciating Prose II: American & British Literature Young Adult Literature across Media	Methodology in teaching Literature Pedagogy in ESL I Pedagogy in ESL II Micro-teaching I Micro-teaching II Teaching English through Drama	Computer-assisted Language Learning

ments include individual and group work, written and oral tasks, final exam and final project. However, while University A and B also require their students to complete online tasks such as online project, e-portfolio and relevant collaborative project, University C has yet to include such assessment methods.

5. Matching of Curriculum Components and Super Skills in IR 4.0 Development: How do the Relevant Aspects of Curriculum (PO, Courses, Methods of Delivery and Assessment) Provide the Development of the Identified Super Skills?

In order to determine whether the relevant components of curriculum are providing opportunities to develop the ten super skills for 21st century and IR4.0, a structured interview with the lecturers was done. They were interviewed sepa-

rately. First, the lecturers were asked whether they know about 4IR. When asked about 4IR, it is interesting to note that there are two different perceptions; one signifies the lecturers' need to still be exposed to 4IR and the other reflects the changes they need to do in embracing 4IR. The following are some of the relevant excerpts from the interview.

"I have heard about it recently but I need to learn more about 4IR. Now, I think there should be more talks or training on 4IR in the university".

Lecturer 5, University C

"I saw the Minister's mandate. He mentioned it again. He said quite the same thing last year. This fourth industry is a big thing. But I don't know how it is related to my subject."

Lecturer 4, University C

"The fourth industry revolution. Yes, we are talking about it. Our VC is also keen to integrate the elements of the fourth industry in the campus."

Lecturer 1, University A.

Table 5. Methods of programme delivery

Uni	Methods of face-to-face delivery							Methods of non face-to-face delivery		
	Mass Lecture	Class Lecture	Tutorial	Individual Consultat.n	Student class present.n	Open class discuss.n	Team teach.g	Blended learning	Flipped c/room	LMS
A	<input type="checkbox"/> X	✓	X	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓
B	<input type="checkbox"/> X	✓	X	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	X	<input type="checkbox"/> ✓	X	<input type="checkbox"/> ✓
C	X	✓	X	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	X	<input type="checkbox"/> ✓	X	<input type="checkbox"/> ✓

Table 6. Methods of assessment

University	On-going assignment							Final exam	Final project
	Individual work	Group work	Written assignment	Oral presentation	Online project/e-portfolio	Online collaborative project	Peer evaluation		
A	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓
B	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓
C	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	X	X	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓

“I have to start innovating to suit the fourth industry. The seminars held last year and top guns from the Ministry came here to talk about the fourth industry”.

Lecturer 3, University B.

The lecturers were also asked how the course they teach in the programme could help develop the super skills. It is important to note that they were briefed about the ten super skills. Their responses indicate that they related the super skills to soft skills they inculcated in their lessons. However, they agreed that some of the super skills are new to them and they were unsure how to train them to the students. The following excerpts signify the responses.

“We have been doing soft skills for so long, since I was a student here. I know we train the students with a lot of communication skills. They do a lot of discussions and presentations. They also need to be independent and do projects. I think we trained them to be critical thinkers and also to be creative.”

Lecturer 2, University A.

“Well, the students do a lot of presentations. I make them create their own group. Also they have the freedom to decide how to approach the assignment. Be independent and make own decisions. The challenge is to also work in a group.”

Lecturer 5, University C

“I don’t know all the super skills by heart but I think we do train our students about the skills. But I am not sure how we have trained skills such as service orientation and cognitive flexibility.”

Lecturer 3, University B.

It could be deduced to this end that the term IR 4.0 is not a new term to the lecturers. However, their understanding of IR 4.0 is still shallow and the ability to train the super skills to their students is still questionable. In particular, the lecturers were still unsure about Service Orientation and Cognitive Flexibility.

It could also be concluded that the discipline courses are relevant and have potential in developing the super skills through the learning and teaching activities as well as graded assignments. This is apparent since the lecturers claimed that they are aware of some of the soft skills associated with the super skills. Nonetheless, there are rooms for further training on other super skills quite new to them such as Service Orientation and Cognitive Flexibility.

CONCLUSION

The idea behind the study is to uncover the potential of certain aspects of TESL curriculum in preparing graduates for IR 4.0. The PO, courses offered, methods of delivery and assessments were examined in determining the match with IR 4.0 super skills development. Document analysis and structured interview were the instruments used in eliciting relevant findings. TESL programme offered in three different universities were identified as the cases.

A close look at the PO statements has confirmed that the POs were written with the adherence to MQF’s requirements. Nonetheless, the importance of the IR 4.0 super skills was also obvious in the PO statements. However, of the ten super skills, Service Orientation and Cognitive Flexibility were not obviously stated in the PO.

The courses offered across the three universities seem to suggest their niche and uniqueness. The courses offered in TESL programme are by default rich with super skills trainings. This is true as the courses require a lot of student discussions, group work, independent research and oral presentations. Super skills such as Critical Thinking, Creativity, Managing People, Coordinating with Others, Emotional Intelligences, and Negotiation are indirectly trained. Additionally, the need to produce critiques and appraisal of literary works relate well to the development of Critical Thinking and Creativity.

However, while one university could be advantaged in developing IR 4.0 super skills due to its commitments towards digital and 21st century learning and teaching, the other two universities could consider more involvement of the IR 4.0 characteristics in their programme delivery such as the use of online platforms and social media. This fact is also similar in terms of assessment methods. There are indications that not all the universities are integrating digital technology and smart applications in conducting student assessments.

This study is a small scale study. Being among the first few in examining TESL curriculum and IR 4.0 super skills development, there are still plenty of rooms for further research on this area. The limited cases studied, instruments used and method of data analysis suggest many aspects of the present study could be revised by future research.

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