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Leveraging Change for IT Job Skills due to COVID-19 Pandemic with Implications on Business English for Undergraduates

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Abstract
Purpose: This study is driven by the national need for universities to equip undergraduates for future job skills. In view of the current COVID-19 pandemic, it is apt to determine if the aftermaths of the pandemic have incurred changes to job skills of IT graduates.
Design/methodology/approach: Hence, a cross-sectional study was carried out among IT graduates who have taken Business English subject.
Findings: Results indicate significant changes in the use of three types of IT job skills before and during the pandemic.
Research limitations/implications: This study has limited the investigation to eleven types of IT job skills as prescribed by Business English syllabus; nevertheless, the list of IT job skills is never exhaustive.
Practical implications: As Business English subject is categorised as English for Specific Purposes (ESP), it undergoes the needs analysis process which is implemented as preliminary as well as review investigation (which elicits feedback from employers or graduates). This input from IT graduates will be useful in sustaining or reviewing the current Business English curriculum as well as creating awareness among undergraduates.
Originality/value: This study reports job-change regarding IT job skills before and during the COVID-19 pandemic. Also, the results ascertain three types of IT job skills that are perceived as more important during the COVID-19 pandemic.
Paper type: Research paper

Keywords: IT graduates, COVID-19, Business English

Introduction

The global impact of COVID-19 pandemic has affected all facets of life. It has led to transformations, changes and adjustments to the behaviour and practice which may have taken a toll on psychology and humility. Nevertheless, new norms have emerged and the influence has affected among others industry, job skills and education. This paper questions possible job changes for job skills in information technology (IT) before and during the COVID-19 pandemic. It will determine the difference of perceived importance of IT job skills at the workplace before and during the COVID-19 pandemic amongst UNITEN IT graduates. To date, the employability landscape in Malaysia has been informed by industry players as well as policy makers and other stakeholders. Results of this study will contribute feedback from IT graduates complementing the existing employability skill-sets and expectations for current IT undergraduates. Hence, this paper presents arguments in the following order: literature review, methodology, findings, results and conclusion.

Literature Review

Business English for IT Job Skills

Industry skills commonly refers to technical skills and transferable skills. Both skills are essential components of training provided by employers and nurtured in universities; nevertheless, it is incumbent on universities to prepare undergraduates for future job skills which is consistent with the national Malaysian Qualifications Framework (MQF) as well as university strategic priority to embed job skills elements in university curriculum. This preparation for future employability cuts across the university curriculum encompassing core subjects as well as compulsory university subjects.

Business English is a branch of English for Specific Purposes (ESP). It is characterised by a sense of purpose, social aspects and clear communication (Zhang, 2007). Business English practitioners speak of ESP as a guide for teaching principles and methodology. Most importantly, they are further informed by studies on how business professionals use English in the workplace. ESP began as an approach to language education based on identifying the specific language features, discourse practices, and communicative skills of target groups while recognizing the subject-matter needs and expertise of learners (Hyland, 2006). With contemporary demands of English at the workplace, ESP steers learning and promotes careers by focusing on communicative domains of English (Hyland & Jiang, 2021).

The cornerstone of ESP is needs analysis which ascertains the business needs and the context (Lockwood, 2014). The main intention of conducting needs analysis is to "determine the features of language that students will require in order to progress from an initial stage as learners to specialised learners" (Liu et al., 2011; Whittaker et al., 2011). It should be an "ongoing cyclical education planning, delivery and evaluation process" (Nunan, 1988).

In order to design the curriculum for Business English, two methods of planning entail: i) breaking down performance areas into constituent parts namely skills, language functions, as well as grammar and lexis ii) analysing language that is used in real life situations or from simulations of real life situations (Ellis & Johnson, 2002). Topics in university Business English aim to cultivate business expertise rather than just teaching language skills; hence, the curriculum commonly combines language skills, business practice, and subject knowledge in a tripartite approach (Zhang, 2007). Kaneko et al. (2009) discovered that the most useful topics at the workplace for computer science students include the writing of memos, emails, faxes and user manuals, and speaking skills for social interaction in conversation and small talk.

In relating Business English to job skills required by IT industry, studies show that by norm, industry expects to train technical skills and desire in graduates some adequate transferable skills or soft skills to fulfil workplace needs. Mostly, industry would expect universities to equip new entrants to have transferable skills like teamwork, relating to customers and understanding the business context (Stevens & Norman, 2016).

Changes in Job Designs for IT Job Skills during Pandemic

Nagel (2020) reported an increasing belief that COVID-19 pandemic has accelerated digital transformation of work which has in turn increased the number of people working from home. This unforeseen aftermath of COVID-19 pandemic is real although past job-related studies have long proposed flexi-time and working from home options. As Friedman (2020) reiterates, "COVID-19 reinforced that some jobs can be done from home, and that people can meet on-line more cost effectively and safely than travelling to other parts of the country or world".

Literature shows that historically, careers and work are in a constant state of change. Hence, some jobs will become obsolete in each new era while new jobs emerge in fulfilment to the current expectations and demands (Hite & McDonald, 2020). Similarly, the imposing complete lockdown due to COVID-19 has created a massive problem for management to define, allocate

and supervise various organisational activities and processes (Alam, 2020). This phenomenon has stirred implications for job design and work practices. A study carried out in Canada at the onset of COVID-19 pandemic discovered that the pandemic has affected jobs and aggregate hours worked, younger workers, hourly-paid jobs, and reduced 15% of employment (Lemieux et al., 2020).

To date, literature has deliberated on transferable skills required of IT graduates from the perspective of industry, policy makers, and stakeholders. In a study on employers' expectations of Computer Science, IT and Software Engineering skills, Scaffidi (2018) discovered that employers not only seek for transferable skills beyond the common communication and collaboration skills, but also included personal attributes like innovative behavior, coping with ambiguity and learning quickly.

In a study on employability skills for IT graduates in New Zealand, Stevens and Norman (2016) discovered a list of top transferable skills that employers look for in IT graduates with a technical background. As illustrated in Figure 1 below, 60% of job advertisements for technical staff seem to prioritise communication skills, teamwork, and interpersonal skills. Transferable skills are especially important for IT graduates as new entrants compared to experienced staff in the industry.

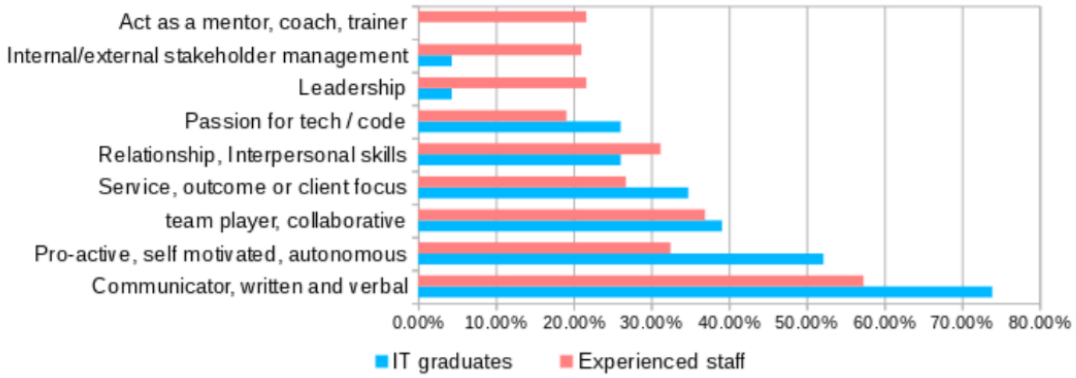

Figure 1: Top Skills for Transferable Skills Requirement in Job Advertisements for Technical Staff (Stevens & Norman, 2016)

Methods

The research design for this study is cross-sectional survey via online survey. The research population is UNITEN IT graduates who have taken ENGB 213 Business English as a university subject with the researcher. The actual population identified was 1,024 but accessible population was 168. Size of sample required for the study is at least 54 according to G*Power (Test family: t-Test, Means: Difference between two dependent means) and 118 according to Krejcie & Morgan (1970). This was determined based on the accessible population. Hence, sample selected was 118 acquired through the systematic random sampling technique. Total respondent was 118 with 100% return rate. Nevertheless, only data from117 respondents was used in the analysis after respondent screening. The instrument used is a self-designed survey named A Survey on Workplace English for UNITEN IT Graduates. The analysis employed for this study was Frequency, Descriptive Analysis, and Dependent t-Test (Paired Sample test).

Findings

A total of 118 respondents participated in the online survey; nevertheless, one was eliminated after respondent screening. All respondents are IT professionals; UNITEN IT graduates.

Table 1: Programme in UNITEN and Current Company

Programmes in UNITEN	**Number**	**Percentage**
Systems & Networking	16	13.7%
Software Engineering	33	28.2%
Cyber Security	9	7.7%
Information System	45	38.5%
Graphic & Multimedia	14	12%
Total	117	100%
Company		
GLC	34	29.1%
Local	39	33.3%
MNC	38	32.5%
Others	6	5.1%
Total	117	100%

Table 1 above shows the first part of the demographic data for this study. Out of 117 respondents, the highest number of participation is from Information System (38.5%, N=45), followed by Software Engineering (28.2%, N=33). The smallest representation is Cyber Security (7.7%, N=9) which was only recently introduced in 2016. As for company attachment, the highest number of respondents are currently working in local companies (33.3%, N=39) with closely similar distribution in GLC's and MNC's.

Table 2: Respondents' Work Experience in IT Industry

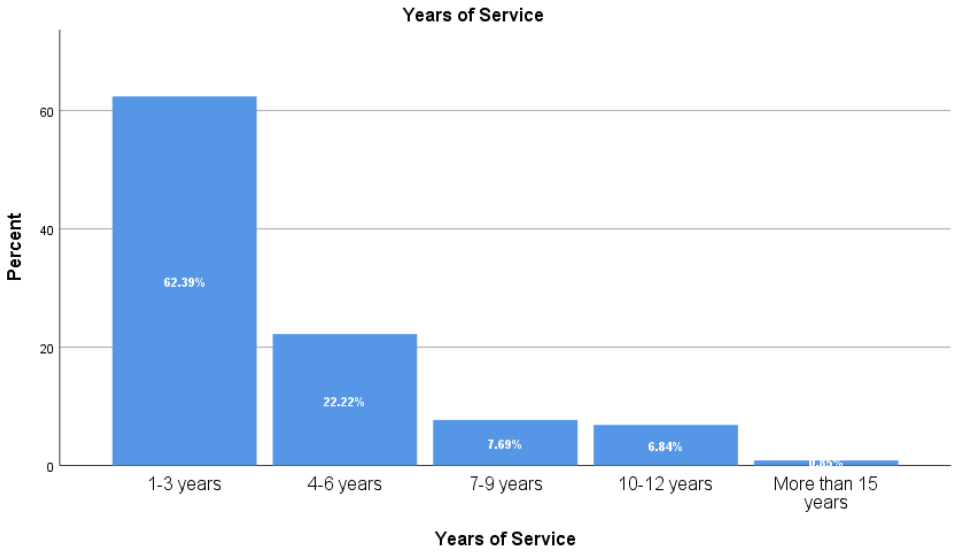

Table 2 shows that 62.39% (N= 73) of the respondents are quite new to the industry with work experience ranging from one to three years. This data is useful in view of university strategy in relation to curriculum design particularly for Business English. According to Ho (2015), if the university plans to design a course to prepare undergraduates for workplace readiness, "it is only practical to prepare them for their junior positions in the workplace".

Table 3: Respondents' Position at the Workplace

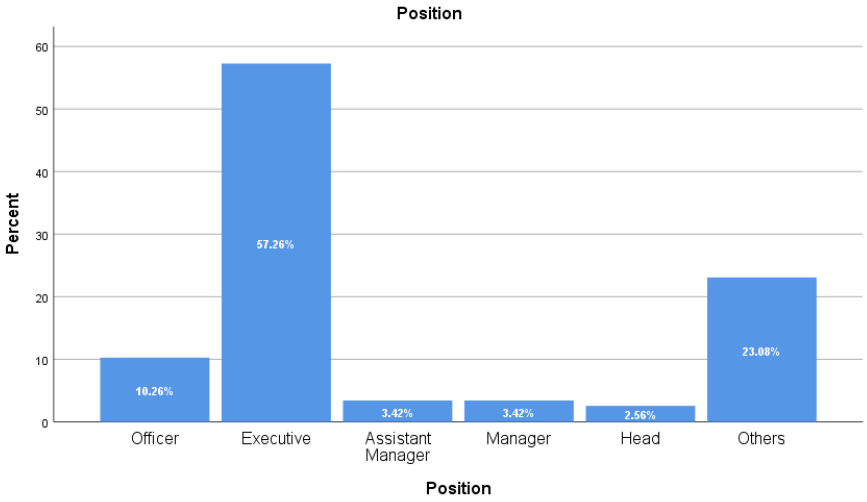

Table 3 shows the current designations for the respondents. In view of the earlier findings as depicted in table 1, it is interesting to note that 57.13% of the respondents with one to three years of experience are currently in the executive positions. Although literature claims that promotions in the workplace usually take three to twelve months, as "the time period reported to move a graduate to 'productive' status ranged from 3 to 12 months, with an average of 6 months, with outliers of 12 to 24 months and 2 weeks or less" (Stevens and Norman, 2016), it is apparent that the respondents in this study have proven otherwise.

Table 4 shows the comparison of mean for perceived importance of IT job skills among IT graduates before and during COVID-19 pandemic. In the survey, the respondents were asked to determine the perceived importance of IT job skills before and during the pandemic using a scale of 1 (most important) to 5 (least important). The –ve and +ve sign refer to the direction due to the formula applied [Before Covid-19] – [During Covid-19]. Means for [During Covid-19] are mostly higher than their counterparts, hence the –ve sign.

As illustrated in Table 5, results for Pair 1 shows a significant difference of importance regarding business communication basics job skills at the workplace before (M = 4.59, SD = .66) and during the Covid-19 pandemic (M = 4.73, SD = .45), $t(116)$ = -2.41, p = .018, d = -.22 (small effect size). Hence, business communication basics skills is perceived as more important during the Covid-19 pandemic by the respondents. Results for Pair 2 shows that there was a significant difference of importance of speaking, listening and nonverbal comm. job skills at the workplace before (M = 4.74, SD = .44) and during the Covid-19 pandemic (M = 5.00, SD = .00), $t(116)$ = -6.47, p < .001, d = -.60 (large effect size). Hence, speaking, listening and nonverbal comm. skills is perceived as more important during the Covid-19 pandemic by the respondents.

Results for Pair 3 indicates that there was a significant difference of importance of use of English as job skills at the workplace before (M = 4.63, SD = .06) and during the Covid-19 pandemic (M = 5.00, SD = .00), $t(116)$ = -6.37, p < .001, d = -.59 (large effect size). Hence, use of English as job skill is perceived as more important during the Covid-19 pandemic by the respondents. In short, the survey has enlisted a total of eleven job skills representing the total number of topics taught in Business English subject. Out of eleven IT job skills listed in the survey, three types of job skills have shown significant difference in mean when compared between graduates' perceived importance of the job skills before and during COVID-19 pandemic.

Table 4: Perceived Importance of IT Job Skills before and during COVID-19 Pandemic

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Business Communication Basics (Before Covid-19) - Business Communication Basics (During Covid-19)	-.137	.615	.057	-.249	-.024	-2.407	116	.018
Pair 2	Speaking Listening and Nonverbal Comm. (Before Covid-19) - Speaking Listening and Nonverbal Comm. (During Covid-19)	-.265	.443	.041	-.346	-.184	-6.466	116	.000
Pair 3	Use of English (Before Covid-19) - Use of English (During Covid-19)	-.368	.624	.058	-.482	-.253	-6.369	116	.000
Pair 4	Recruitment Correspondent (Before Covid-19) - Recruitment Correspondent (During Covid-19)	.026	.622	.058	-.088	.140	.446	116	.657
Pair 5	Reports (Before Covid-19) - Reports (During Covid-19)	-.043	.548	.051	-.143	.058	-.844	116	.400
Pair 6	Visual Presentation (Before Covid-19) - Visual Presentation (During Covid-19)	.060	.577	.053	-.046	.165	1.122	116	.264
Pair 7	Notices Advertisements and Leaflet (Before Covid-19) - Notices Advertisements and Leaflet (During Covid-19)	-.009	.533	.049	-.106	.089	-.173	116	.863
Pair 8	Oral Presentation Skills (Before Covid-19) - Oral Presentation Skills (During Covid-19)	.043	.607	.056	-.068	.154	.761	116	.448
Pair 9	Rules of Good Writing (Before Covid-19) - Rules of Good Writing (During Covid-19)	-.034	.629	.058	-.149	.081	-.588	116	.558
Pair 10	Electronic Mail (Before Covid-19) - Electronic Mail (During Covid-19)	-.009	.482	.045	-.097	.080	-.192	116	.848
Pair 11	Introducing the Business Letter (Before Covid-19) - Introducing Business Letter (During Covid-19)	-.051	.471	.044	-.137	.035	-1.179	116	.241

Table 5: IT Job Skills with Job Change before and during COVID-19 Pandemic

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Business Communication Basics (Before Covid-19)	4.59	117	.659	.061
	Business Communication Basics (During Covid-19)	4.73	117	.448	.041
Pair 2	Speaking Listening and Nonverbal Comm. (Before Covid-19)	4.74	117	.443	.041
	Speaking Listening and Nonverbal Comm. (During Covid-19)	5.00	117	.000	.000
Pair 3	Use of English (Before Covid-19)	4.63	117	.624	.058
	Use of English (During Covid-19)	5.00	117	.000	.000

Discussion and Conclusion

As one of the branches of ESP, it is indispensable for Business English practitioners to embrace the practice of needs analysis (Halliday et al., 1964; Strevens, 1977; Evans & St. John, 1998; Belcher, 2004, 2009) which investigates learners' related needs and requirements. Needs

analysis should be conducted in the beginning of the course as initial needs analysis or periodically as the course progresses (Evans & St. John, 1998; Richards, 2001). The following discussions elaborate on the results of this study.

Firstly, in this study, the periodic needs analysis is conducted after a certain period of implementation, also in tandem with the college annual programme review (APR) by eliciting feedback and evaluation from university Alumni of IT graduates. This way, the study is meaningful as reality check for university curriculum which is consistent with an earlier study conducted by Azrina et al. (2012) concerning skills required of IT graduates by Malaysian IT professionals. In the study, they reiterate that curriculum developers "should acknowledge the current trend in order to prepare the students that will fulfil the industry requirements".

Secondly, the results in this study ascertain that the topics delivered in Business English are still relevant and appropriate at least in the Malaysian landscape. Hence, the current curriculum may require minimal adjustments as deemed necessary by the university academic committee. The curriculum is good otherwise, as discussed by Atai and Shoja (2011) regarding the decision to design a new curriculum or whether changes should be implemented in an existing one. Further, Rahman (2015) argued that views from both stakeholders and professionals should be incorporated in the curriculum design. In this study, the IT graduates represent the cohort of IT professionals.

Thirdly, it seems that more English is used at work by IT personnel in this study during the pandemic. The results in this study also suggest the importance of English language for IT personnel at the workplace. Previous research on ESP have discovered similar findings on the necessity of English in the curriculum and that students expect to furnish themselves with English language skills during their undergraduate years (Laborda & Litzler, 2015; Li & Fu, 2021). In situations when students have low overall level of English, tasks can be more language centred with more practice on grammar and lexis.

Fourth and the most important finding in this study is regarding communication skills for IT job requirement. It seems that the job skills of IT personnel in this study involves more communication skills during the pandemic compared to the time before the pandemic. It is worth mentioning that communication skills as one type of soft skills is a priority skill among IT personnel. Literature is replete with employability skills for IT personnel requiring not only technical skills but also profound transferable skills or soft skills. In this study, two out of three job skills that show significant increased role of importance during pandemic are concerned with communication namely 'Business Communication Basics' and 'Speaking, Listening and Non-verbal communication'.

In a nutshell, this study shows that COVID-19 pandemic has resulted in change to job design for IT graduates as observed before and during the pandemic. The set of IT job skills in these two timelines show significant difference in three types of job skills as represented by the topics in ENGB 213 Business English syllabus namely 'Speaking, Listening and Non-verbal communication'; 'Use of English', and Business Communication Basics'. Hence, Business English as ESP in the new norm will have to emphasise on these three chapters as awareness for change in job design due to the COVID-19 pandemic.

Theoretical Implications

1. The result of this study supports the notion that conducting periodic ESP needs analysis over a certain period of time is necessary.
2. The decision to carry out needs analysis during the pandemic is timely as it presents a different working landscape which may bear implications on IT job design. This study contributes to ascertaining three types of job skills that are more frequently used by IT personnel working from home during the pandemic.

Practical and Social Implications

1. As a result of this study, university should impose more rigour in creating awareness among undergraduates about the salient impact of two types of soft skills for IT workplace settings namely Communication and English language skills.
2. It will also add to existing literature on employability skills for IT personnel to ascertain the role of two types of soft skills namely communication and English language as tested during emergency times like COVID-19 pandemic.
3. IT job skills as represented by university Business English topics show that communication skills and English language skills are the predominant requirements at the IT workplace. This result is consistent with ESP which advocates that the topics or sub-skills taught in university Business English should be a match of subject knowledge, business practice and language skills. With this implication in mind, the current curriculum should bring the industry, business community and students closer together by having activities like industry talks, industry visits, and mock interviews with panellists featuring the business players.

Limitations and Suggestions for Future Research

1. This study is limited to UNITEN IT graduates who have taken Business English with the researcher. Future research should be conducted with a larger sample size of respondents.
2. Further, it will be as meaningful to focus the scope of IT job skill research into two areas of specialisation namely Computer Science (CS) and Information Systems (IS).

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