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Teaching Academic Subjects through English and its Impact upon Students' Academic Performance: Is it a Two-way Street?

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Abstract

Amid ongoing worldwide adherence to English as a medium of instruction in the realm of higher education of non-Anglophone countries, stakeholders have been far from unanimous in their views about a relationship between students' academic achievements and using the language as a medium for knowledge acquisition. Shedding more light upon this controversial issue intrigued the present paper which is aimed at providing meaningful insights into a diverse array of aspects that should always be emphasized in acquiring and conveying various academic contents via English. The paper argues that owing to a wide variety of the aspects involved in the process, along with the specificity of each non-English higher education context, there is no clear and unequivocal position on the nature of the relationship. There is a dire need for further research into the impact of the language of instruction on learners' academic success.

Keywords: English medium of instruction, academic performance.

Introduction

There has been a continued accelerating global shift towards delivering academic content knowledge through the English language in the sphere of higher

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education of non-English speaking countries (NESC) over the last decade. More and more higher education institutions (HEI) align with this ever-increasing worldwide trend, which is based on the prominent status the language has gained all over the world. The dominance of English can be viewed through the prism of its influence in a wide range of fields and among them international business, cutting-edge knowledge, science and research. The language appears to be emerging as the global academic lingua franca exerting its influence on certain aspects of the field (Hawkins 2008). With regards to the two latter fields (i.e., science and research), language is profound in its impact, inter alia, upon academic publications, which is manifested, for example, in the facts that the majority of academic journals, as well as current research, are published in English (Hawkins 2008; Bowker and Ciro 2019). It is worth mentioning that its central role in main scholarly and scientific journals stems from the activity of their editors and the contribution of academic staff who, and this is highly important, are academics at HEI in Anglophone countries (Altbach 2013).

The current hegemony of English appears to be expressed through the everincreasing use of the language as a primary medium of instruction within the academic patterns of NESC. Based on the British Council interim report (Dearden 2014), the English medium of instruction (EMI) is considered a growing global phenomenon in both public and private education at all stages of education (Dearden 2014, 3). A high value has been attached to a rapidly growing demand for EMI owing to a host of actual and potential benefits that can never be overemphasized. Among the benefits is the one associated with the utmost need for HEI to raise its international profile with the aim of improving its ratings (Linn 2016). Bearing this need in mind, it should be underscored that getting on top of this urgent challenge is contingent upon the degree of universities' success and effectiveness in recruiting, as well as retaining, high-caliber academics. Not less important in tackling the challenge is to accord due attention to expanding the number of both international and local students.

Without detracting from the importance of upholding the highest standards of higher education, it is worthy of note that this endeavor on the part of HEI to enhance its international profile has not derived from the gregarious instinct. The interest is generated by and related to an ever-growing global competition in the higher education market. Being virtually a business-based one in international as well as domestic markets, this interest has an in-built financial component playing a vital role in triggering HEI's aspiration to be active participators in the worldwide competition with the objective to survive and meet the institution's financial needs (Tsou and Kao, 2017). The international student market, with its promising financial perspectives based on high-fee-paying students, constitutes a strong incentive for this active participation in the competition and implementation of the EMI approach (Coleman 2004; Kirkpatrick 2014; Jenkins and Mauranen 2019).

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Yet, despite the high significance of the financial component in keeping abreast with emerging and mushrooming demand for the shift towards the medium of English within higher education settings, it is also of significance to emphasize that another way to implement the shift is to attach high value to the dire need of HEI to attract a substantial number of domestic and international students along with hiring high-caliber academic staff. By expanding the pool of stakeholders, institutions of higher education can yield appreciable results in enhancing institutional prestige, profiles, and solid academic reputation, which in turn will create fertile ground for their rising in the international ranking scales (Rakhshandehroo 2017; Kirkpatrick 2014; Kirkpatrick 2015). The above-mentioned aspects related to the use of English as the instructional language in the arena of higher education fall within the scope of the internationalization process. Viewed from this angle, the internationalization of higher education goes hand in hand with resorting to language as a primary medium of instruction because the latter is deemed to be an essential element of the process. With regards to the process itself, it implies, among other things, such aspects as 'organized cross-border mobility of students and faculty . . . internationalization of curricula, cross-border institutional partnerships in joint research, joint degrees, and branch campuses' (Gundsambuu 2019, 73), which are inextricably linked with the Bologna Process and the European Region Action Scheme for the Mobility of University Students (ERASMUS).

Literature Review

It is worth mentioning, however, that in their bid to align with this increasingly deepening trend toward embracing English as the medium of instruction in HEI, decision-making bodies, and policymakers seem to have paid insufficient attention to potential pitfalls and hurdles that may arise in the process of EMI implementation. Failure to sidestep or overcome them may lead to negative consequences that will undermine an effective realization of the EMI approach. Among the challenges are the ones associated with the detrimental effect of the transition to the medium of English upon a local language (Al-Bakri 2013), cultural identity (Edwards 2016), and the overwhelming majority of existing languages threatening their very existence (Coleman 2006).

Another noteworthy barrier standing in the way of a successful realization of the EMI in higher education patterns is related to the stakeholders' (i.e., lecturers and students) insufficient command of the language. Not unexpectedly, poor language competence acts as a trigger for a host of other issues. In that respect, it is worth noticing, inter alia, problems pertaining to the superficiality of students' learning (Kırkgöz 2005), a time-consuming factor (Hu et al. 2014; Chen 2017; Li and

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Wu 2017), as well as quality and quantity of the educational material (MacDonald 2009). Among various manifestations of the stakeholders' limited language repertoire are the ones connected to a reduced degree of interactions with learners (Vinke et al. 1998), a lack of clear pronunciation (Hellekjær 2010), and codeswitching (CD) to students' first language (L1) (Sert 2008), defined as 'the introduction of items (words, phrases, or sentences) from another language into the base language, which occurs within sentences or between sentences within the course of a single conversation' (Ibrahim 2001, 134).

The present paper's main thrust lies in examining a relationship between EMI learners' inadequate language proficiency and their academic performance. The relationship is deemed as yet another manifestation of the stakeholders' low English level, and it has been accorded due attention in different studies conducted on the subject in various parts of the world. An example of such a study is one held at an Omani engineering college (Sivaraman et al. 2014). The study primarily aimed to find out the percentage of college students having difficulties understanding lectures delivered through the medium of English. The findings exhibit, inter alia, that the student's overall performance is negatively impacted by their insufficient command of the language.

Along similar lines, it is worth touching upon descriptive research conducted among 120 students from technical and science courses at a Nigerian college of education (Aina et al. 2013). The study was geared towards exploring a correlation between the medium of instruction of the country's education system, i.e., the English language, and the performance of the taught in the courses. Based on the findings, there is a strong correlation between students' academic achievements in the fields of technical education and science and the level of their language competence.

The findings are consistent with the ones obtained from the study that was carried out at a private Turkish university. The study laid special emphasis on investigating the effects of a non-native medium of instruction on the academic attainments of university students (Civan and Coşkun 2016). With respect to the language of instruction in higher education institutions, many bachelor's degree programs are delivered in both English and Turkish. It is important to note that being completely identical, the programs were taught to learners having highly similar socioeconomic and academic backgrounds. The results indicated that the English medium of instruction, which was their second language, had a negative impact on the learners' academic success. Interestingly enough, the degree of the impact was higher among first-year students and lowered during subsequent years.

Another manifestation of the significant relationship between students' academic success and their English language proficiency comes to the fore in the study conducted among 'postgraduate management students of Marathwada region of

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Maharashtra' (Kumar 2014, 10). The study was undertaken among learners from semi-urban and rural areas having various degrees of English competence. According to the results of the study, inadequate English skills on the part of the teacher had a negative influence on their academic performance. In view of these results, it needs to be pointed out that the students had this limited language competence in spite of being taught through English from the tenth grade to their high school graduation. This gives rise to a number of questions pertaining to the quality of teaching content subjects via English in high schools of the region in India.

Without diminishing the significance of the earlier-noted aspects related to the level of the language of instruction and students' academic attainments, it is important to emphasize that high proficiency in daily-used English cannot guarantee academic success in English medium classrooms. The reason behind this lack of guarantee has to do with a difference in genre between academic and daily-used English (Chou 2016). In other words, learners with high achievements in 'regular English courses ... [may] still suffer greatly in English-only academic courses' (Chou 2016, 37).

Apart from this distinction between the genres, there is another one proposed by Biglan (1973) that is worth attention given the focus of the present paper. According to Biglan's (1973) model, sciences are divided into 'hard' and 'soft .'Based on the model, disciplines are also divided into 'applied' and 'pure .'As an example of the classification, engineering falls under the classification of hard and applied while natural sciences fall under the category of hard and pure (Dafouz et al. 2014). The typology emerged as a valuable element in an empirical study carried out at the Complutense University of Madrid. The study, conducted in the School of Economics and Business Administration at the University, was aimed at examining whether students' academic performance may be negatively affected by EMI, which is not their mother tongue (L2). Drawing upon the data obtained from EMI and non-EMI groups of the students who studied such subjects as Principles of Business Financial Management, Financial Accounting I, and Economic History, there were no 'statistically significant differences' (Dafouz et al. 2014, 12) as far as the subjects are concerned. That being said, interestingly enough, slight differences were detected pertaining to the participants' performance in Accounting and Finance and in the subject of History: the results of the former were lower than the ones of the latter. For that matter, Dafouz et al. (2014) point out that taking into account Biglan's (1973) model, Neumann, Parry, and Becher (2002) and Neumann (2001), Economic History is considered as 'a soft pure discipline' (Dafouz et al. 2014, 5) owing to considerable significance that is attributed to effective thinking skills and broad general knowledge. The discipline stands in contrast to the subjects of Business Financial Management and Financial Accounting I, as the subjects are 'concerned with the

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enhancement of professional practice and aiming to yield protocols and procedures' (Neumann et al. 2002, 406).

The lack of significant influence of English on learners' academic performance was pointed out in another study conducted at the College of Education (T) Lafiagi in Nigeria (Aina and Olanipekun 2013). The purpose of the study was to ascertain the degree of influence of language on students' academic achievements in physics and computer science. It is pertinent to emphasize that the authors find this lack of influence unsurprising since the impact of the language was not viewed separately and might have been substantial.

As regards the field of computer science, it is worth attaching due value to a study carried out at a reputed engineering college in the northern part of India (Pal and Iyer 2012). The study was oriented toward investigating the degree of impact of the medium of instruction on students' programming abilities. Video lectures related to introductory programming were presented to three groups of participants: two groups of Hindi medium students and a group of English medium students. One of the first two groups watched the lecture in Hindi while the second group watched the English version of the lecture. The participants of the third group consisted of English medium learners and were presented with the videos in English. The findings exhibited no significant difference between all the groups in terms of their post-test performance.

Various Ways to Explain and Address the Controversial Relationships

In light of the aforenoted findings derived from an array of varied studies, it is necessary to provide insights into commonalities and differences concerning English language proficiency on the part of the stakeholders. This brings us to the question of whether it is essential to adopt a host of effective measures and establish fruitful strategies with the view of equipping the stakeholders with robust, proficient knowledge of the language. There seems to be no one-fits-all approach to the issue as the linguistic challenge is intertwined with a gamut of aspects EMI-based learning and teaching comprise. One of the aspects is touched upon in an earlier mentioned study conducted at a Turkish higher education institution (Civan and Coskun 2016). Drawing upon the results of their investigation, the researchers believe, inter alia, that due attention should be drawn to a marked difference between students with meritbased scholarships and their peers. The authors' belief is that, unlike regular students, scholarship learners are deemed as more hardworking and generally brighter. It can be added that this group of learners possesses a higher degree of motivation to acquire the medium of instruction. The researchers presume that the differences are critical over the course of students' preparatory period when regular students are not as good

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as the scholarship students in learning the language. These factors play a valuable role in establishing a high level of fluency in English, which in turn are effective in neutralizing the possible negative impact of EMI upon the learning process.

The relationship between students' academic performance and their command of EMI within the context of a preparatory period was examined in the study carried out among medical students during their yearly preparatory course in a Saudi Arabian higher education institution (Kaliyadan et al. 2015). The course's medical module consists of lectures based on didactics, problem-based learning taught in small student groups, and 'practical workshops as the main teachinglearning methods' (Kaliyadan et al. 2015, 140). The results of the study point to a major role of an adequate grasp of English in determining the learners' academic success and suggest a range of measures to create a breeding ground for improving academic attainments of the taught within the EMI format. Among the measures are the ones that are associated with carefully planned and continuous introduction of activities and refresher courses in the form of debating societies. From this angle, the way EMI courses are delivered may constitute an obstacle to an effective transfer of knowledge, which will impact learners' academic performance. In an earlier study carried out among Indian students learning programming (Pal and Iyer 2012), educational material was conveyed through video lectures in two mediums of instruction: English and Hindi. The downsides of the approach, underscored by the researchers, among other things, had to do with the difficulty of the learners being actively engaged during the videos. Another problem experienced by the learners was related to the pace of watching the videos, as they were not adjusted in accordance with their needs. An additional valuable finding emanated from the study falls within the scope of the subject's specificity owing to its considerable influence upon the choice of strategies and techniques that need to be employed to achieve effective delivery of academic content. Bearing this in mind, the investigators consider computer programming skills through the prism of its specificity, which implies its application-oriented nature requiring tutorials or laboratory. As a result, the adherence to the teaching strategy based only on videos is far from the spectrum of realizable goals. It is plausible to assume that resorting to the technique in combination with other useful teaching tools can yield appreciative results that effectively convey educational content.

However reasonable the aforementioned teaching tools and strategies may seem, there exist others that carry much weight and need to be taken into consideration regarding EMI students' academic performance. Some of them are highlighted in the aforesaid study held in a college of education in Nigeria (Aina et al. 2013). Amidst recommendations suggested by the researchers, there is one that underscores the role of school education in enhancing the level of English

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proficiency. In particular, it was suggested that secondary school students should be provided with advice on the importance of the English language according to its high value. In the same vein, one of the recommendations of the previously noted study in India (Kumar 2014) regarding acquiring the language in schools was to urge decisionmaking bodies to 'ensure a highly focused approach towards English' (Kumar 2014, 15) in the school system. The significance of strengthening learners' linguistic competence prior to entering HEI is reflected in Ebad (2014). The paper portrays a general snapshot of the situation with EMI within Saudi higher education settings where the medium of English is used at the undergraduate level. The author places an emphasis, inter alia, on the gap between an insufficient command of the English language on the part of the students before embarking upon academic courses delivered via the language and the level of the language that is necessary for catering to their educational needs in the EMI environment. In Saudi Arabia, English is unknown to students prior to the post-secondary program. According to the author, this fact has a detrimental effect on learners. In addition, this sudden exposure to English as a medium of instruction in the arena of higher education in the country has an adverse effect on their learning outcomes. Interestingly enough, these negative effects emerged in spite of constructing and resorting to preparatory year programs and English language centers that were aimed at easing students' linguistic burden. The goal was not reached as the learners manifested gross incompetence even in writing their names in English. The author is of the opinion that the reduction of educational content to its basic components, inter alia, is the path to follow to get on top of the language problem. Another noticeable aspect of the learning process is to keep learners actively engaged, and one of the ways to put that into practice is to add exercises and quizzes (Ebad 2014).

In relation to the latter, screening students for their English language abilities is deemed as yet another valuable tool worth taking into account in understanding the depth of the relationship between students' academic attainments and their competence in the language. With this need in mind, it is believed that setting admission criteria for entering HEI with the view of making sure that learners are equipped with the necessary language skills will lead to a firm grasp of various academic content on their part. The idea of employing the strategy is positively viewed and highly regarded in a number of studies as described further below. Amongst the recommendations brought forward by Kumar (2014) is the one laying special stress on carrying out an English proficiency test 'as a part of entrance exam for (P.G.) [post-graduation] management programs' (Kumar 2014, 15). By the same token, Kaliyadan et al. (2015) are in favor of establishing a minimal English threshold in the form of cut-off score in the International English Language Testing System (IELTS) and Test of English as a Foreign Language (TOEFL), standardized English

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examinations, for students to be admitted into the described in the study medical program. Along similar lines, establishing certain enrolment criteria for learners' admission into science and technical courses was suggested based on the findings of the study held at the Nigerian College of Education (Aina et al. 2013). The researchers suggested that admission to the courses 'should be based on credit pass' (Aina et al. 2013) in the language.

Although the aforesaid gatekeeping policy may be highly effective in alleviating and overcoming various problems of the taught, it is not without disadvantages. A negative attitude towards the policy may be triggered on the basis of a possible mismatch between the results of English literacy tests and students' actual command of the language. An example of such a mismatch between learners' results in IELTS and TOEFL and their language difficulties is touched upon in Murray (2010). Apart from this and other disadvantages, the gatekeeping policy may be unfavorably viewed by students with certain socioeconomic and educational backgrounds (Pan 2015; Hu et al. 2014; Vu and Burns 2014).

Conclusion

In view of the aforementioned and taking into consideration the overwhelmingly increasing trend towards adopting the English language as a permanent medium of instruction in the sphere of higher education, it is vital to contribute further time and effort in choosing the most productive pathway to embrace the EMI approach. Researchers have yet to thoroughly look into a wide spectrum of domains that are conducive to capturing the breadth and depth of the trend and to best exploit its potential. Amidst the broad scope of varied aspects are the ones falling within domains of psychological factors, teaching and learning strategies, lecturers' English proficiency, mechanisms of assistance to the stakeholders, and equipping them with necessary tools to sidestep numerous pitfalls along the way towards embracing the medium of English within academic settings along with overcoming already existing hurdles. Not unexpectedly, given a wide range of technology-enhanced teaching and learning environments in today's higher education landscape, it would be a largely myopic stance not to add to the list the valuable role of technology-oriented educational techniques employed in institutions of higher education as well as a substantial role of computer literacy of the stakeholders. Needless to say, the list is far from being complete. Moreover, it is plausible to assume that it will never be completed due to the dynamic nature of both the educational process in general and the one based on adherence to conveying academic content via English. It is of paramount importance to keep abreast with continuous changes in the field and take into account the specificity of non-English

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higher education contexts to reach the most effective implementation of EMI in HEI.

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