Unjust Adjustment: Dispelling the Myth of English Superiority within Kuwaiti STEM Studies

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Abstract

In the scientific community, mastery of the English language has become vital to publishing discoveries, communicating with other scientists, and obtaining employment at multinational corporations, among other activities. In response to this need, universities in Kuwait and elsewhere in the Arabian Gulf have adopted an English-only policy for their science, technology, engineering and mathematics (STEM) programmes, forcing local students to abandon their education in Modern Standard Arabic. This article discusses the effects of the English-only approach by questioning whether it truly corresponds to the needs of the market and offers the optimal educational experience. This work further affirms that the current policies create linguistic dualism between English as a language of modernity and professionalism, and Arabic as a language of tradition and emotions. This analysis suggests the necessity of further reflection on how this approach affects the self-representation of the Kuwaiti people. Finally, this article discusses the issue of linguistic rights, namely, whether students should be allowed to study in the official national language. This micro-study of the actual effects of the spread of English in the scientific community aspires to give a voice to those who are often dehumanized by large studies of the advantages of an international language.

Keywords: English, Arabic, linguistic dualism, linguistic rights, medium of instruction, education

1. Introduction

The ability to communicate in English is an asset as well as requirement for success in many fields. Many educational establishments have responded by adjusting their linguistic policies under the pretext that better knowledge of English will benefit students in their future careers. Various options are privileged not only in diverse parts of the world but also in different socio-economic classes. English is taught as a primary foreign language in more than one hundred countries, including China, Bangladesh and Iran. English is also taught as a principal medium of instruction, either for a specific purpose or together with another language (bilingual approach). In 2010, 400 to 500 million children aged fifteen or younger were learning English, a number that represents approximately one-fifth of the world's population (Note 1).

The growth of the oil industry caused the spread of English in the Arab world. Of course, English has been spoken in the Gulf since the colonial era, but the need for an efficient workforce to exploit the oil industry propelled the status of English to an entirely new level. In Kuwait, non-nationals constitute not only the majority of the workforce but also the majority of residents. Currently around only 31% of Kuwait's population are Kuwaiti nationals, with 1.1 million Arab expatriates (25.6%) and 1.4 million Asian expatriates (32.5%) - alongside with American, British and Europeans-   make up the other 69%.   With a population of 4.3 million in 2023, Kuwait currently has a predicted annual population growth rate of 4.0% per year (Note 2).

The need for a lingua franca became even more evident when Kuwait entered the "knowledge era" in the 1990s, an epoch characterized by the glorification of ideas and knowledge as the primary source of economic growth (Note 3).The capacity to share ideas and knowledge on a global scale became one of Kuwait's primary goals. In 1993, Kuwait adopted the Ministerial Decree 61/93, which introduced English language instruction in all primary public schools, thereby lowering the age of language learners from ten to six years. In 2008, the Ministry of Education proposed teaching English in nursery school to students as young as three years of age. Kuwait University, colleges, and training institutions managed by The Public Authority for Applied Education

have long administered required-subject entrance tests or interviews in English. At the tertiary level, universities are progressively adopting an English-only curriculum (Note 4).

The pan-Anglicisation of education is even more present in the STEM (science, technology, engineering and mathematics) fields, in which success depends on both individual achievements and the capacity to build upon international discoveries. One need only think of mathematical symbols to see the potential behind this idea (Note 5). Indeed, during the Scientific Revolution, famous thinkers such as John Wilkins, René Descartes and Marin Mersenne expressed support for a global language (Note 6). François Rozier, editor of the monthly scientific journal Observations sur la Physique, sur l'Histoire Naturelle et sur les Arts justified the very existence of his publication on the need to provide a comprehensive source in a single language shared by all scientists (Note 7). Already at this time, the lingua franca of sciences, French, was believed to be democratizing scientific knowledge. However, three centuries passed before English achieved global status, surpassing even the glory of Arabic in the 11th-century scientific world (Note 8).

Mastering English has become necessary in the scientific arena not only to participate in private sector investment in research and development (R&D) but also to work in the increasing number of international facilities. International cooperation have become a major component of scientific work; more than 90% of scientific publications listed in the Science Citation Index are multinational collaborations. Estimates based on the journals tracked by Scopus indicate that in 2008, more than one-third of all peer-reviewed articles were published in English (Note 9). These English databases are crucial platforms for a scientist's careers for they provide indicators of research quality and are a necessary directory to evaluate institutions and research projects, which can factor in decisions around hiring, tenure and funding.

The ability to speak this language enables scientists to share their work across the globe and potentially secure recognition on a wider scale, with the International Space Station or the Hubble Telescope being the most obvious example of global collaboration (Note 10). This capability further assists scientists in acquiring knowledge through collaborative work and publications that would otherwise be inaccessible as a result of linguistic barriers. Furthermore, this use of English also meets the current needs of the private market. From a macro perspective, these arguments convincingly support the Anglicisation of STEM programmes in Kuwait.

Nevertheless, a global language leads to inconvenience from a micro and qualitative perspective. While authors, including Montgomery, have acknowledged that such a language creates inequities, there remains a belief that the benefits ultimately outweigh the disadvantages. With recent studies by A. Al-Bataineh (2021) and W.R.A. Cook (2017), for example, this paper provides a different view of this issue, considering the pan-Anglicisation of STEM university programmes in Kuwait. It questions the rationale behind the choice of English as an exclusive medium of instruction in the STEM fields. Proposing that this approach does not correspond to the needs of the market, this work criticizes the utilitarian approach of decision makers as neglectful of the importance of student experience and exaggerating the importance of economic assumptions. At a societal level, the pan-Anglicisation of tertiary education creates a linguistic dualism in which English is associated with professional and scientific work, whereas Arabic is relegated to traditional, emotional, and religious affairs. This dualism influences the shaping of Arab identity and reinforces the gap between scholars and the general population, decreasing the likelihood that scientific findings will be accessible to all. Finally, imposing a unilingual curriculum in a language other than the national language raises questions regarding students' linguistic rights. Considering all of these issues, this paper demonstrates that large-scale studies tend to downplay the tension created by the use of English as a global language in STEM from both a micro and a broader perspective.

2. Methodology

This article employs a critical discourse analysis approach (CDA) with the aim of studying the "relations between discourse, power, dominance, social inequality" and "the role of discourse in the (re)production and challenge of dominance"(Note 11). This methodology is characterized by particular attention to top-down relationships of dominance leading to inequalities rather than "bottom-up relations of resistance, compliance and acceptance"(Note 12). In the context of this paper, this methodology translates into an analysis of how the pan-Anglicisation of STEM programmes in Kuwait (re)produces relationships of dominance that have led to inequalities, particularly among socio-economic and political classes (Note 13).

The approach covers discourse as a linguistic unit, extending to discourse as "an event or social phenomenon"(Note 14). Discourses are crucial societal objects of analysis in themselves because they construct their own truths on a topic (herein the policies of language in the tertiary sector) and define the rationale and premises of the argument (Note 15). In other words, CDA permits the study of "discourse as social practice"

through an examination of the "ideological effects and hegemonic processes in which discourse is seen to operate" (Note 16).

This methodology is also ideally suited for our research because it intrinsically attempts to link both micro and macro aspects of discourse by focusing on social cognition as a "missing link" between the two. In this case study, we create this link through a qualitative understanding of the experiences of students and other stakeholders of institutions, asking how and for what reasons do these actors position themselves with respect to the role of English in sciences.

In contrast to other forms of discourse analysis, CDA tends to be more pragmatic in its approach. For instance, "[i]t is primarily interested [in] and motivated by pressing social issues" rather than by a contribution to a specific domain (Note 17). It is hoped that a more nuanced, self-conscious approach to the role of the English language in the education of Kuwait's future scientists will result from this analysis. In addition, this article also aims to highlight the actual circumstances under which English as a global language is evolving.

These concerns are different from, but not exclusive to, those studied by scholars of linguistic imperialism, a theory concretized by Robert Philipson who argues that when English supplants other languages it operates as linguistic capital dispossession (Note 18). This approach examines power relationships but also presupposes that the actual circumstances of these relationships are the products of imperialistic and colonialist motives. The colonial origins of the English language in the Arabian Gulf certainly fuel the perception that English is a threat to cultural values and national identity (Note 19). More specifically, the pan-Anglicisation of education and the extended role of English is believed by some to have "an underlying proselytizing, missionary and value laden subtext that may be at variance with or even contrary to Islamic values" (Note 20). A more recent claim being that the English language remains "projected as a de-territorialised language disconnected from its original sources and even from the driving forces behind its expansion worldwide"(Note 21). Linguistic imperialism, however, carries an unwelcome bias that prevents objective analysis of power relationships and discourse. It assumes that the inequality is a product of history and tends to overlook the current forces involved in language creation. Linguistic imperialism also presumes that people are "victims" of external forces, but in reality, these students remain active agents and scientists actively seek to learn a global tongue to communicate their findings and obtain access to a wider range of opportunities. Nevertheless, the acceptance of English by scientists should not serve as a justification to avoid debating and discussing the issue. Following Troudi and Jendli, this article refrains from adopting an "essentialist" or "anti-English" view and instead positions itself "within a critical and postmodern perspective on the pedagogical hegemony of English"(Note 22). Thus supporting the proposal that higher education be "linguistically diversified", that achieving the goals of higher education, but also protecting "the linguistic rights of local citizens" (Note 23). The article proposes that higher education in the country be linguistically diversified in order to achieve the goals of higher education and to protect the linguistic rights of local citizens. As Troudi and Al Hafidh point out, the challenge that faces Kuwait and other Gulf nations is which educational and language policy approach to follow in order to achieve a "a balance between the need for a competitive national workforce capable of taking part in a world economy, while at the same time, maintaining a sense of national and linguistic identity" (Note 24).

3. Discussion

3.1 The Needs of the Market

At the core of the rationalization underlying the pan-Anglicisation of the tertiary educational sector in the Arabian Gulf are pragmatic assumptions regarding the role of English in the international market. Such assumptions are especially relevant for scientific fields, in which proponents of the current linguistic curriculum evoke "discourses of social progress, economic and technological advancement, global communication, and trade" to support the unilingual approach (Note 25). Scientific programmes are assumed to require a "good command of English" in preparing the workforce to function in the economy (Note 26).

Researcher G.T. O'Neil's interviews with women from different backgrounds in the United Arab Emirates confirm that these assumptions regarding the economic advantages of English at the tertiary level are also shared by students. One of the respondents, Afra, associated the use of English with her professional interests. She hoped to travel the world and did not plan to work in the public sector, where she believed Modern Standard Arabic would be useful. O'Neil's analysis demonstrates that young Arab students tended to associate English with a cosmopolitan lifestyle and successful private sector careers (Note 27). This discourse of power is encouraged through parental attitudes and family background, both of which play a crucial role in student acceptance of EMI [English as a Medium of Instruction] and in their "tendency to prefer English to Arabic" (Note 28). Students at private educational institutions are most likely to prefer English as a medium of

instruction (Note 29). Along those lines, wealthy families were most likely to hire domestic helpers from foreign Asian countries who would introduce or reinforce the use of English at home. Unsurprisingly, results of a study of UAE students at EMI institutions showed that 33% of students claimed to "always" use English with their friends at University, while only 19% indicated used Arabic all the time. Meanwhile, 57% prefer to read in English, while 71% preferred to write in English (Note 30).

The passage to adulthood ultimately normalizes the role of English in the Arabian Gulf. According to O'Neil, "the combined effects of studying in English, more English encounters outside the home, and more literacy events around leisure time interests lead to the establishment of English literacy and speech practices alongside those in Arabic" (Note 31).The socially established role of English explains that students tend to view the transition from Arabic to English as "natural" and "unplanned" (Note 32). This situation contributes to legitimizing pragmatic arguments regarding the value of English that are viewed as intrinsically neutral statements about economic reality.

Ironically however, no existing studies support these assumptions. Empirical studies do not support claims that graduates of English curricula in the Gulf have greater academic or professional success than graduates of non-English programmes (Note 33). Although this lack of research does not necessarily indicate a lack of correlation between language and success, it certainly affects the credibility of the claims of scientific rigor and neutrality that are implicit in economic arguments in favour of English, which fail to address the sociolinguistic tensions (Note 34) and the voices of concern at the level of media and public debate regarding "the status of Arabic and its potential to contribute to world knowledge" (Note 35). Moreover, the lack of research on such educational policies is problematic because "without theorization and without awareness of the role of mother tongue and bilingual education, EMI will continue to alienate the very participants it claims to serve and empower in the first place" (Note 36).

The educational experience of students will be further discussed in the following section, but we must agree with Troudi and Jendi's conclusion that current arguments favouring the pan-Anglicisation of STEM programmes are missing the necessary self-criticism. One example that Alptekin (1993) points to is that EFL textbook authors will write, whether consciously or not, through their own culture-specific schemas., thus "the gamble being taken here is of a potential loss both of competency in mother tongue Arabic and of cultural and social identity" (Note 37). English may be a necessary skill to secure a job in academia and multinationals, but it may not provide the competitive edge that employers are seeking. Multilingual employees have exceptional attributes that are vital assets for employers operating across borders or employing individuals from different ethnic and linguistic backgrounds. As noted by the executive board of the United Nations Educational, Scientific and Cultural Organization (UNESCO), multilingualism is a "factor in harmonious communication between peoples". Indeed, it "encourages dialogue, interaction and tolerance" and "ensures effective and greater participation […] as well as greater efficiency" and "better results" (Note 38).

To support this claim, studies demonstrate that multilingual strategies result in high levels of economic competitiveness. For example, specifically, only 27% of small and medium Swedish enterprises used a multilingual export strategy, leading to 20% of companies declaring that they have "missed out on exportation contracts due to language barriers". In comparison, 68% of small and medium Danish enterprises used a multilingual approach, leading to only 4% of contracts being abandoned because of linguistic barriers (Note 39). Multilingual employees are therefore crucial to the success of many companies.

In a competitive market, should STEM programmes encourage a unilingual curriculum in the absence of empirical data when they also have the option to offer a bilingual or multilingual approach? If one argues in terms of economic profits and performance, such an argument should thoroughly reflect the needs of the market and how best to fulfil those needs. Particularly in Kuwait, the affluence of foreign English workers creates a need for bilingual individuals who can master both Arabic and English. Additionally, because governments are most likely to fund sciences "for economic competitiveness, defense, prestige, [and] public health," local scientific employment remains a considerable source of employment (Note 40). Kuwaiti graduates who cannot translate scientific key terms into modern standard Arabic will be seriously limited in their own domestic market.

3.2 The Optimal Educational Experience

A discourse relying on utilitarian arguments regarding the value of a global language can also be recognised for its dehumanizing effect on education that challenges liberal visions of education as a way to empower individuals. While English is the language of instruction in a number of disciplines within higher education institutions, many Kuwaitis are not proficient in the language to participate adequately. Tryzna & Al-Sharoudi recommend the university setting as a place for a dualistic language system, similar to that created in the UAE

(Note 41). Similarly, debates around "Englicization" or whether English use is being hybridized into a unique form of Arabized English, also known as glocalization, may be helpful (Note 42). The authors conclude that creative practices can help native Arabic speakers develop a feeling of ownership, making English a part of their multilayered Arab identity (Note 43).

Institutional establishments are clearly vital in the pursuit of a healthy economic system, but they also serve a wide variety of public functions. It is currently unclear whether new universities in the Arab world will embrace a liberal approach and those who claim utilitarian arguments for the pan-Anglicisation of STEM programmes unwillingly take a significant stance in this regard (Note 44). Will they invest in the liberal model or the utilitarian model? What are the consequences of these decisions? Is the primary mission of universities to provide public goods or to support private aspirations? In the context of research-based establishment, Calhoun argues that universities wear both hats:

[U]niversities can and do make contributions distinct from simply the sum of private benefits. They educate for citizenship as well as for business. They educate for public service as well as for private profit. They do research to end diseases even when they cannot make money from selling the cures. Public benefits are also the primary goals of research to strengthen social cohesion, to understand threats to peace and public security, and to help children reach their full potential (Note 45).

The most concerning aspect of Kuwait's linguistic policies is the lack of reflection on the implications of these policies and the messages they send to the greater community. Most importantly, Kuwait neglects the principal stakeholders in these scientific programmes—the students. Such institutions fail to consider how English-only policies may affect their educational experience and how important (if at all) such policies are to the academic world.

To think critically about the pan-Anglicisation of STEM programmes in Kuwait and other nations of the Arabian Gulf, alongside with the effects of English-language policies on students' experiences, it is vital to reflect on the socio-economic implications of such policies. In the Arab world most private education is taught in English, whereas public schools use modern standard Arabic as the medium of instruction. In the latter, English is taught as a foreign language. Because private education is more expensive, it tends to appeal to families with higher incomes. Al-Issa conducted a study of how 91 Emirati university students in the UAE use Arabic. All participants were native Arabic speakers and 90% of them had attended private high schools. While the participants spoke Arabic at home, with family members and friends outside of university, they preferred to read and write in English (Note 46). Accordingly, pan-Anglicisation places universities in a situation that aggravates the gap between social classes rather than serving the public good of democratizing knowledge. Students from private schools will have an advantage when taking admission tests, and their experiences and future careers will differ from those of their colleagues.

Students from the public sector may struggle to adapt to using the English language in addition to the typically intense stress of tertiary education. In O'Neill's study, for instance, a student explained that her CGPA was lower because of the use of English. In English-language classes, she commonly achieves a C or a B, whereas in Arabic-language classes, she commonly receives a B or an A (Note 47). Therefore, it is not surprising that students from private institutions were largely in favour of studying in English, whereas those from the public sector "strongly favored an equal balance of Arabic and English" (Note 48).

How university administration is - or is not - able to reinforce societal gaps is a cause for concern because education has the potential to encourage a fairer distribution of private benefits (Note 49). It is well known that a student from an economically disadvantaged background has a reasonable chance of improving his or her situation with a diploma in his or her hands. Wealth redistribution is also a factor in justifying the public funding of universities, however, as Cook outlines, possibly the most troubling challenge to an "Arabic renaissance" comes from the business sector, with foreign businesses driving large parts of the economy (Note 50).

Of course, one of the ways in which tertiary education can weaken the undesired effects of pan-Anglicisation is through better support for ESL students. Montgomery suggested including English as a core class in the STEM curriculum because it has become a vital skill for such students. The addition of such a course would imply various changes, including "unburdening English of its association with any specific country" and "understanding that acquiring such a skill can take significant time, normally six to eight years" (Note 51).

The author also notes that the educational approaches with the highest success rates are those of Scandinavia and the Netherlands, notably because of their "highly trained" professors. In comparison, Syed noted that in the context of the Gulf countries most tertiary-level professors are Americans who sometimes lacked "knowledge of local sociocultural communities and languages" (Note 52). While little or no cultural training is provided.

Instead, the emphasis is on teaching ability as opposed to "native" speech. Students learn English in daily classes from the age of six, along with their core subjects, with English being used in various classes, particularly the sciences. In Kuwait, students in the public system experience a complete transition from Arabic to English with little or no ESL support.

Universities in the Gulf could also consider a more bilingual approach rather than a "bifurcated" system (Note 53). In O'Neill's study, 60.22% of the 626 respondents expressed a preference for studying in both English and Arabic (Note 54). Many avenues appear to remain unexplored in the current system, raising questions as to the importance that decision makers attribute to the opinions and educational experiences of students (Note 55). A curriculum should reflect the national identity and the social environment from which it evolves, not be separated from its roots. The current linguistic policies should therefore be evaluated in this regard.

3.3 The Impacts of Linguistic Dualism

The pan-Anglicisation of STEM programmes has the effect of creating an association between English, the sciences and professionalism, and between Arabic and religion, sentimental issues and the traditional sphere in general. This linguistic dualism was identified by Findlow (2006), who noted that Arabic is regarded as a "symbol of local and traditional Arab Muslim culture." This is opposed to English, which is viewed as a "vehicle for modern, international and Western frameworks" (Note 56).

Afra, a respondent in O'Neill's study (2014) indicated that apart from an Arabic translation of the book "The Secret" (Byrne, 2006), the only Arabic-language book that she reads is the Qur'an. She reported being more confident studying in English because her Arabic is weaker, as confirmed by her grades. Another student explained that all of her academic and professional readings are conducted in English: "Everything I know is in English. Even now, if I read something, the same major, in Arabic, I don't understand it because the terms varies a lot, so I prefer reading in English when it comes to my field because I understand it" (Note 57).

This mentality, along with practical obstacles such as the lack of Arabic textbooks, publications, and lecturers, has led to the faulty assumption that Arabic is not a language of the sciences (Note 58). But a language must consistently be updated, particularly with respect to new sciences and technologies. And yet, language evolution requires a proactive approach that is clearly lacking in Kuwait. In Syria, by contrast, scholars are currently translating new scientific terms and publications into Arabic.

The scientific community has always needed a lingua franca to communicate and build upon the discoveries of others. However, a lingua franca does not, and should not replace the need for multilingualism within the discipline. One of the reasons for this need is that science must be shared outside of the scientific community because it is necessary for the flourishing of society. A unilingual approach to sciences impedes the diffusion of scientific knowledge.

And yet, as Cook outlines, by the end of the twentieth century 85–90 % of all scientific research was conducted in English (Note 59). Non-native English speakers are unfairly disadvantaged by the status quo and for individual non-English scientists, the cost involved in learning English and producing publications is high, not to mention career-defining (Note 60).

Furthermore, the prevalence of dualism in Kuwait has an indirect effect on social and individual identities. Self-representations in turn corresponds to self-direction, which is also defines by social identities. Professor Kramsch emphasized that "from this membership, (the individual draws) personal strength and pride, as well as a sense of social importance and historical continuity from using the same language as the group they belong to" (Note 61). In other words, humans use language to identify themselves with specific groups using accents and specific vocabulary or discourse patterns. Such insight might be aligned with the problematices attached to the myth that global English acts as a neutral player, detached from cultural origins, when in fact, while the learning of English along with other languages is beneficial (linguistic capital accumulation) (Note 62), when that language supplants other languages it becomes linguistic capital dispossession (Note 63). In Kuwait, the younger generation is slowly abandoning the use of Arabic in favour of English, a language regarded as cosmopolitan and modern. So what might this mean for Islamic and Arab identity? This break in historical continuity results from a perception of the Arabic language as obsolete, while Al-Issa's study provides evidence that while the younger generations are more proficient in English, they attach value to being able read and write in Arabic to support their knowledge of history and religion (Note 64). Significantly 88% of interviees felt it important for all Arabs to be able to read and write in Arabic, despite only 41% having the skills to do so (Note 65).

Therefore, while the younger generation may want change, we can also assert that part of this is simply the desire to follow a trend without reflecting on its long-term effects. When one person speaks to another she sends,

either intentionally or not, messages about her cultural identity. What message does pan-Anglicisation send? Kuwaiti decision makers must reflect on the societal effects of their policies and be conscious that their choices have substantial consequences for students who are still building their identities. Might universities then, be the site of conscious reflection on this process rather than imposing utilitarian ideas about language upon their students? The university might instead demonstrate to lawmakers the scholarly and social potential that can be reached by adapting official language policy to encourage bilingualism, multilingualism or plurilingualism (Note 66).

3.4 Linguistic Rights and the Protection of Languages

One final concern with the lack of reflection on the pan-Anglicisation of tertiary education in Kuwait and elsewhere in the Gulf is that such an approach denies the intrinsic value of language. Mrs. Irina Bokova, the Director General of UNESCO, declared on World Arabic Day 2015 that languages are "ways of celebrating our creative diversity" (Note 67). In this regard, languages are more than simple tools of communication. We have already observed their relationship with social and individual identities, but they also carry cultural implications in terms of values and visions. Languages are "vessels which contain cultural diversity and dialogue among civilizations, and a bridge enabling closer relations between societies and a richer diversity of forms of expression and interaction and the exchange of support and empowerment" (Note 68).

These intrinsic characteristics are so important that many societies throughout the world have implemented laws to protect the use of certain languages that often arise in the form of linguistic rights. In Kuwait, the constitution states that the official language is Arabic and that members of the National Assembly must be able to read and write Arabic (s. 82(d)). However, in view of the realization that an increasing number of languages are at risk of extinction, non-governmental organizations (NGOs) at the international level are lobbying for extended linguistic rights for minorities. In 1996, for example, at the World Conference on Linguistic Rights in Barcelona, the Universal Declaration of Linguistic Right was signed by the International PEN Club (PEN) and many NGOs. The document, which can be found on the UNESCO website, states that communities should be included in decisions regarding language policies, even at the tertiary level:

Article 24

All language communities have the right to decide to what extent their language is to be present, as a vehicular language and as an object of study, at all levels of education within their territory: preschool, primary, secondary, technical and vocational, university, and adult education (Note 69).

The document concludes by stating that the "the right to use and protect one's own language must be recognized by the United Nations as one of the fundamental human rights" (Note 70).

4. Conclusion

In consideration of this international movement and the intrinsic value of language, the inability of students to study a STEM discipline in a country's national, official language raises some questions of concern. This concern is especially relevant for public universities such as Kuwait University (founded in 1966, under the Act N. 29/1966), which are funded and overseen by the government. A democratic institution should be responsible for ensuring the availability of education in the national language. Although the very purpose of having public institutions is to democratize education, the current linguistic policies of Kuwait are inconsistent with this mission. It may be understandable for branches of American universities in the Gulf to use an English curriculum, but national establishments must offer alternatives to ensure that students can choose their medium of education. A more didactic approach to linguistic dualism might support this critical discourse analysis approach to address the tension from both a micro and a broader perspective. For example, one might look towards the scholars from the 1980s who demanded that the varieties of English spoken globally, in effect, be decolonized (equalized) by giving them equal validity (Note 71). Adopting an "inclusive understanding of Englishes as all manifestations and uses of (forms of) Englishes around the world", in line with the belief that "new knowledge can be generated from theoretical pluralism and cross-disciplinary" (Note 72). In conclusion, the development of a global language for the sciences may be both useful and beneficial in the long term. However, if decision makers are not more sensible about the impacts of their policies, tension and social crises may result. An international language need not be implemented at the expense of the national language and its users. One can look to Mustafawi& Shaaban's study (2019) to examine the failure of the ten-year initiative by the State of Qatar, which mandated English as the medium of instruction in STEM classes and the reinstitution of Arabic as the instructional medium in 2012. The result being that while the majority of the participants favored the initiative, they disliked the hierarchical way it was implemented and how it marginalized Arabic, also undermining the Arab identity of students (Note 73).

Certainly, the current economy requires a certain level of English mastery, however emphasizing a unilingual approach does not reflect the advantage that multilingualism might have in the private and international markets. In addition, these utilitarian concerns fall short of ensuring an optimal educational experience for students in STEM programmes, those who are supposed to be the primary stakeholders of educational institutions.

The pan-Anglicisation of STEM programmes also has indirect effects on both personal and social identity by encouraging the linguistic dualism of English being seen as a cosmopolitan and modern language, with Arabic considered a local and traditional tongue. Ultimately, such issues raise questions regarding the public funding of universities and access to education in the national tongue.

Particularly in Kuwait, these concerns should be at the heart of a conscious reflection that considers demographic reality. Macro-studies of the spread of English tend to overlook situations in various parts of the globe involving rising tensions between local and global languages that manifest in unique ways. To resolve this dilemma, decision makers must consider more than simply the needs of the market and act consciously upon such considerations.

Acknowledgements

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Notes

Note 1. Montgomery, 2013, p. 28

Note 2. World Population Review, 2023

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Note 4. Siemund, P., Al-Issa, A., Rahbari, S. & Leimgruber, J. , 2021. p.97

Note 5. Montgomery, 2013, p. 21

Note 6. Montgomery, 2013

Note 7. Garfield & Welljams-Dorok, 1990

Note 8. Galal, 1977, p. 47

Note 9. The Royal Society, 2011

Note 10. Montgomery, 2013, pp. 87–89

Note 11. Van Dijk, 1993, p. 249

Note 12. Ibid,   p. 250

Note 13. Pennycook, 1994; Phillipson, 2017; Hopkyns. & Elyas, 2022

Note 14. Van Dijk, 2008, p.5

Note 15. McAuley, 2005, p.54

Note 16. Lê & Lê, 2009, p. 8; Blommartert, 2005, p. 29

Note 17. Van Dijk, 1993, p. 252

Note 18. Phillipson, 2017, p.316

Note 19. Ahmed, 2010. Also see Kabel, 2005

Note 20. See, for instance, Weber, 2011, p. 62

Note 21. Philipson, 2017, pp. 315-316

Note 22. Troudi & Jendli, 2011, p. 29

Note 23. Al-Bataineh, 2021, p.216

Note 24. Troudi & Al Hafidh, 2017, 94

Note 25. Troudi & Jendli, 2011, p. 26

Note 26. Troudi, 2009, p. 203

Note 27. O'Neill, 2014, 2017

Note 28. Troudi & Jendli, 2011, p. 23

Note 29. O'Neill, 2014, p.13

Note 30. Al-Issa, 2017

Note 31. Ibid, p. 17

Note 32. O'Neil, 2014, p. 14; Jendi & Troudi, 2011

Note 33. Troudi   & Jendli, 2011, p. 42

Note 34. Philipson, 2017, p.313

Note 35. Jendi & Hafidh, 2017, p.108

Note 36. Troudi & Jendli, 2011, p. 41

Note 37. Troudi& Hafidh, 2017. p.94

Note 38. UNESCO, World Arabic language day, 2012, par. 5

Note 39. Habib, 2011

Note 40. Montgomery, 2013, p.5

Note 41. Tryzna & Al-Sharoudi, 2017, p.88

Note 42. Hopkyns, Zoghbor, & Hassall, 2018

Note 43. Hopkyns, Zoghbor, & Hassall, 2018, p.167

Note 44. Calhoun, 2011

Note 45. Calhoun, 2011, p. 3

Note 46. Al-Issa, A, 2017, p.9

Note 47. O'Neill, 2014, p. 13

Note 48. Ibid, p. 11

Note 49. Calhoun, 2011, p.3

Note 50. Cook, 2017, p. 402

Note 51. Montgomery, 2013, p. 179

Note 52. Syed, 2003, p. 338

Note 53. Weber, 2011, p.65

Note 54. O'Neill, 2014, p.11

Note 55. Troudi & Jendi, 2011, p. 42

Note 56. Troudi, 2009, p. 5

Note 57. O'Neill, 2014, p. 16

Note 58. Troudi, 2009, and Cook, 2017

Note 59. Cook, 2017, 387, with reference to Kaplan 2001; Ammon 2006

Note 60. Cook, 2017, p. 391

Note 61. Kramsch, 1998, p. 66

Note 62. Phillipson, 2017, pp. 313-33

Note 63. Phillipson, 2017, p.316

Note 64. Al-Issa, 2017, p.9

Note 65. Ibid.

Note 66. Ibid, p.14

Note 67. UNESCO, World Arabic Language Day, December 18, 2015

Note 68. UNESCO, World Arabic language day, 2012, par. 4

Note 69. PEN, 2011

Note 70. Ibid

Note 71. Saraceni& Jacob, 2021, P.11

Note 72. Ibid, pp.5-6

Note 73. Mustafawi & Shaaban, 2019, p.219