Article

Received: 14/12/2017; Accepted: 04/01/2018; Published: 31/01/2018

Learning the languages of technology: Multilingualism in Indonesian vocational secondary education

Kristian Tamtomo
Department of Sociology, Universitas Atma Jaya Yogyakarta

Abstract

In Indonesia, we can consider vocational secondary education as being in the front lines of global contact, in which youth as students directly face the demands of globalized industries and labor markets. Within vocational high schools, the use of multiple languages often plays an important yet unrecognized part of vocational training. This paper will discuss, based on ethnographic data collected in 2013 from two vocational schools in Semarang, the way in which students use multiple languages, mainly English, Indonesian, and Javanese, as part of their process of learning vocational skills. The main argument of the paper is that vocational schools teach students a specific technical variety or register of language, which combines parts or sometimes fragments of multiple languages, often for the purpose of technical vocational competence and not necessarily for the development of linguistic competence. This results in a form of “segmented competence” (Blommaert and Omoniyi 2006). However, youth as students can use this technical register to not only localize global forms of technological practice in their learning processes but also to participate, albeit marginally, in the global or transnational technology-based communities of practice of their vocational program.

Keywords: multilingualism; globalization; youth; vocational high school

1. Introduction

In Indonesia, vocational secondary education aims to produce youth graduates who are ready for work (Newhouse and Suryadarma 2011). As a result, vocational high schools often have direct connections to the various companies that constitute their labor market. These companies, especially those operating in the engineering and technology sector, have become increasingly globalized. Meaning, they increasingly operate using transnational forms of technology and global forms of language, particularly English. As I will show, vocational high school themselves often directly adopt technical manuals from the industry into their teaching materials. As a result, vocational high schools often expose their adolescent students not only to the global influence of technological innovation but also to global forms of language and communicative practices.

On the other hand, vocational high schools also cater to local populations and local labor markets. Hence, these schools still have to use Indonesian as the official language of instruction in the classroom and teachers often still use the local or regional language (bahasa daerah) in interpersonal classroom communication with students. At least, this is what I observed in my research in two vocational high schools in Semarang, Central Java. As a result, vocational high school education also reflects the multilingual demands of contemporary education, in which students must not only learn and use technological registers in a global language but also in combination with the use of Indonesian as the official language of instruction.

This paper seeks to show that in dealing with this multilingual demand, vocational high schools teach their adolescent students a specific technical “register” or form of language related to particular occupations or social practices (Agha 2004). This register features the
combination of various language elements from multiple languages, mainly English as the technical jargon, Indonesian as the official language of instruction, and Javanese as the predominant local language of interaction. The resulting technical register combines fragments and elements of these languages more for the purpose of technical communication, so that students are able to use the jargon, technical knowledge, and skills of their specific vocational programs, and not necessarily for linguistic competence in each individual language. This multilingual technical register thus helps students to learn global forms of technological language by vernacularizing them into national and local communicative practice. In doing so, students are also learning to become part of a broader and often global community of technological practice, albeit in a marginal or peripheral manner.

The reason is that through this multilingual technical register, students primarily learn competence in using and communicating with technology, what Blommaert and Omoniyi (2006) calls “technological competence.” However, this technical register does not transfer various aspect of linguistic and communicative competence (such as grammar, knowledge of genres, rules of cultural communication, etc.), particularly of English as a global language. These more nuanced deficiencies in competencies can constitute major obstacles in people’s social participation and acceptance into global networks. Students thus do not pick up truly global forms of English linguistic competence through the technical register they learn in vocational schools. While the English they use can still represent possibilities to global engagement, students predominantly learn and use it to participate in local or national labor markets and industrial practice.

The main point I seek to show is that global forms of language and technology travel in segmented ways. Aspects of technological competence seem to be the most broad and easiest forms that travel across socio-cultural contexts. In contrast, more nuanced linguistic and cultural competencies do not travel as easily. The difference in which competencies students pick up through the influence of globalization in vocational secondary education points to broader structural inequalities of access and flows in global information, knowledge, and competencies.

Studies of youth and youth languages have tended to focus on aspects of popular youth culture, focusing on youths’ propensity to adopt hybrid, trans-local and novel language forms for the purpose of identity construction (e.g. Bucholtz 2002, Bucholtz and Skapoulli 2009). Regarding youth studies in Indonesia, Naafs and White (2012:4) note that:

Indonesian youth studies have in many ways followed the general pattern and trends of the broader field of youth studies. They have tended to focus largely on urban youth, and particularly in the capital and larger metropolitan cities... in recent years, they have shown great interest in youth cultures and lifestyles, and much less in young people's practical and material activities and interests.

Studies of Indonesian youth language have also tended to look at popular culture aspects and they have largely focused on urban and especially university-going youths (e.g. Smith-Hefner 2007, 2009, Luvaas 2009, Zentz 2014). I intend to undertake a slightly different route. By looking at adolescents from vocational high schools, I hope to show not just the use of language related to "being" youth but also show the processes of learning to use languages for the job market related to "becoming" adults (see e.g. Naafs 2012, Minza 2012).

In talking about globalization in relation to the multilingual technical language that students learn in vocational high school, I will be guided by the idea of “disembedding mechanisms” (Giddens 1991), in which social or cultural forms, including language, can travel across trans-local contexts. In an early attempt to discuss language and globalization, Coupland
(2003) has noted the following emphasis on the phenomena of (a) the increasing connectivity and interdependence between localities and (b) the compression of space and time. This corresponds to foundational ideas of globalization that discuss the effects of these phenomena, such as hybridity, glocalization, and scapes (e.g. Hall 1997, Bauman 1998, Appadurai 1996). In a more recent compilation, Coupland (2010) also highlights the key position of the notions of mobility and flow (from Hannerz 2002), although emphasizing that these flows often occur through complex forms of hierarchies between centers and peripheries (cf. Wallerstein 2004) that still exist in concrete spaces (Blommaert and Dong 2010:367).

In focusing on the combination of novel forms of mobility vis-à-vis continuing forms of hierarchy, particularly in the mobility of language forms, Blommaert and Dong (2010) argue for a new sociolinguistics of mobility. They suggest that in focusing on language-in-motion, we must also understand that the spaces through which these language forms travel are not only horizontal geographical space but also often are vertical social spaces (i.e. “scales”, see Blommaert 2007), in which there are hierarchical social, cultural and political distinctions (2010:368). Furthermore, mobile forms of language often do not always constitute complete linguistic systems. They can often constitute fragmented or “truncated” linguistic repertoires (Meeuwis and Blommaert 1998, Blommaert and Dong 2010), which can also lead to speakers having varying levels of competence in the multiple languages they obtain from these processes of mobility and flow.

Blommaert and Omoniyi’s (2006) notion of “segmented competence” speaks of to the this fragmented flow of language forms, in which certain forms of communicative competence travel easier or are easier to achieve. In their study on email fraud, Blommaert and Omoniyi (2006) argue that technological competence is more mobile and easier to achieve than the more nuanced linguistic and genre-related communicative competence. In other words, it is easier for people from non-English speaking developing and peripheral countries to learn and navigate English-based internet browsers and web pages than it is for them to produce English language texts and genres. As a result, their communicative efforts are often de-valued when they enter global or trans-local social spaces or scales, since they do not meet the hierarchical structure of language evaluation in these new spaces.

Segmented competencies and the differential flows of various aspects of language point to structural inequalities in flow and access. Aspects of language knowledge, especially of English, that provide the ability of people to truly transcend broad spaces and scales are often subject to unequal distribution (Blommaert 2007), hence their premium value. Yet in the global flow and ubiquity of English as a global language, this nuanced distinction is often implicit, that is, until they emerge in settings where language is explicitly evaluated.

Finally, globalization of language forms also brings about the commodification of language, particularly of English (Coupland 2003). The commodification of language occurs when, through circulation and symbolic evaluation, certain languages have a "market value" (Coulmas 1992:77-79), in the sense that the exchange value of a language means it is a "marketable commodity on its own" (Heller 2003:474). Heller (2010) argues that commodification of language is a result of the expansion of capitalism into new geographical areas and the development of niche markets and symbolic forms of “added value.” This has led not just to the expansion of communication networks involving a wider repertoire of languages, but also the use of language as either a commodity or an important means of production for various industries in a new knowledge or information economy. Hence, people can often use forms from economically valuable languages, such as English, as “commodification practices” (Coupland 1996) in enhancing their self, message, or brand (see also Kelly-Holmes 2005 on
2. Research methods and location

I collected the data I present in this paper from two state vocational high schools (Sekolah Menengah Kejuruan Negeri – SMKN) in Semarang, Central Java. The first school, SMKN Bebengan, is located in the southwest periphery of Semarang, while the second school, SMKN Pandanaran, is located in the center of the city. Both schools have a technological and engineering orientation, with SMKN Bebengan specializing in information technology and SMKN Pandanaran specializing in automotive engineering and multimedia.

The data I present in this paper comes from a broader ethnographic study focusing on the use of multiple languages by extra-curricular student groups. I conducted data collection mainly through qualitative and ethnographic methods during the 2012-2013 academic year. Most of the data I present below come from participant observation among student groups, interviews with teachers, and collection of documents from students, teachers and school premises. I conducted participant observation with student groups such as the Pramuka (Scouts), OSIS (Organisasi Siswa Intra-Sekolah – School Parliament), and Paskibra (Flag Bearer Troop), as well as student groups based on vocational programs. The selection of student groups was based on a combination of purposive and respondent-driven sampling (Bernard 2006). The participant observation focused on group activities and meetings, in which I recorded conversations, took fieldnotes, and collected documents through photography. I conducted interviews with student groups and vocational teachers from both schools. From both school locations, I observed and interviewed five student groups while I also interviewed seven teachers from each vocational program. I recorded and transcribed all of the interviews while I transcribed selections of recorded conversations. I organized and coded transcripts, fieldnotes, and documents based on certain themes and topics in order to triangulate the three different sources of data.

Finally, as is customary in qualitative research ethics, all names of institutions and individuals in this paper are pseudonyms to protect the identities of the informants (Marvasti 2004: Chapter 7).

3. Results and discussions

The vocational high schools’ use of multiple languages in the technical register they teach their students is most visible in their written teaching materials. Both students and teachers from the two school locations call these texts as “job-sheets”, reflecting the way vocational schools have adopted this term from industry and company practices. An automotive engineering teacher form SMKN Pandanaran noted that schools adopted “job-sheet” from work shop (bengkel) practices without fully understanding the reason for its use (Interview Mr. TN, SMKN Pandanaran 15/5/2013). Teachers from both schools also state that much of the core teaching material for the vocational programs comes directly from corporations and the industry. This is done through the direct adoption of company technical manuals, such as ‘New Step’ from Toyota, or from trainings given by practitioners and experts from universities or technical colleges (Interview Mr. PD, SMKN Bebengan, 11/2/2013, interview Ms. IN, SMKN Pandanaran, 14/5/2013). The adoption of the English term “job-sheet” illustrates the way vocational high schools use English in their technical language: they use it based on technical purpose and industrial practice and not necessarily based on competence in using the language.
Vocational high school job-sheets feature the use of English in combination with Indonesian. English often functions as technical terms which the text then explains using longer Indonesian text. The job-sheets thus use the two languages in a complementary manner (Sebba 2012), in which each language plays different functions that complement each other to create the whole text.

Students have to learn to use these English technical terms as the linguistic part of their technical skills. These English terms are often useful and important in talking about and communicating specific skills, tasks, or technical components. For example, in a Multimedia student-group meeting in SMKN Pandanaran, I recoded a senior student asking his juniors:

*Lha ini ada* extreme close-up, big close-up, close-up, medium shoot, medium long shoot, long shoot, extreme long shoot. *Ya, udah pernah denger?* (Multimedia group meeting, SMKN Pandanaran 7/3/2013)

Here is extreme close-up, big close-up, close-up, medium shoot, medium long shoot, long shoot, extreme long shoot. Yes, you have heard of it?

The students’ ability in using these English technical terms become part of the way they show technical competence, either to other students or to teachers.

The use of English technical terms is common across the various vocational programs that I observed in the two school locations. One variation is in the automotive engineering program, which tends to be older than the information technology oriented programs. The longer history of these automotive programs, both at the two schools as well as in technical vocational high schools in general, means that they often show the use of technical terms sourced from languages other than English or Indonesian. Older technical terms in the automotive often come from the Dutch language. This reflects the history of vocational high schools’ global orientation, as well as the legacy of older workshops and mechanics. These older technical terms hark back to a time when most of the training materials and manuals of the Indonesian automotive industry was still in Dutch. When Japanese car manufactures began to dominate the Indonesian car market in the 1980s, setting up local factories and official dealers, the industry shifted to using English technical terms, with the vocational high schools following suit. Nonetheless, some Dutch technical terms have become official loanwords in Indonesian while other terms continue to be used verbally by teachers and older mechanics. For example, teachers from the automotive program of SMKN Pandanaran often continue to teach these older terms so that students can still understand when they work outside of official dealer workshops.

*Kita mengatakan* connecting rod ya. *Terus kita juga ngomong dengan bahasa pasaran ya bahasa Belanda setang seker, tapi Bahasa Indonesinya batang tora. Kita tetep, apa ya, kita campur bahasanya. Ya, agar anak mudah mengetahui.* (Interview Mr. TN, 15/5/2013)

We call it connecting rod, yes. Then we also use the market language, which is *stang seker*, from Dutch, but the Indonesian is *batang tora*. We still, how do you say it, we mix the language. So that the kids can easily understand.

The technical register of vocational high schools use English not only as technical terms: in some vocational programs, English constitutes a key part of the technology or vocational skill itself. This is certainly the case with the computer programming or “software engineering” program in SMKN Bebengan (and to a certain extent, the Multimedia program of SMKN Pandanaran). In this vocational program, the main skill that students learn is the ability to use
English-based coding languages, such as C++, HTML, JavaScript, and various English-based computer programs, such as Dreamweaver, Photoshop, CorelDraw, etc.

The job-sheets of this vocational program present and explain English-based coding languages in two broad ways. The first is to show the individual English program commands with their corresponding Indonesian explanations, in a form of glossary list as shown if the top half of Figure 1. The second way is to show the actual use and combination of these English-based commands in the form of computer codes or syntax, as shown in the bottom half of Figure 1. The job-sheet illustrates to students the code or program-specific string, syntax or language structure. It also shows the way students can integrate Indonesian “content” within the larger program-functional English coding terms. As we can see, while these codes/programs use English-based elements, their syntactic structure nonetheless drastically differ from regular English. As a result, we can consider that while students are learning to use English elements, they are nonetheless learning to use it for a specific “technological competence”. While this engagement with English may set up possibilities for students to learn the language, this is not the primary objective of the job-sheet, technical register and vocational program. Their main objective is to teach students to be “technologically competent” in operating English-based computer programs and not necessarily to teach them to be communicatively competent in English.

![Figure 1. Software engineering job-sheet](image)

We can see the illustration of this difference in competence in Figure 2, showing the code behind a student’s practice web page from SMKN Bebengan. In the top half of Figure 2, we can see the way the student uses various forms of English-based HTML commands, arranging them in the syntax specific to that programming language. While this is a beginner’s level
structure, focusing on codes for the textual layout of the web page, it nevertheless looks complicated to those who are not familiar with the syntax of HTML. When this student constructed this piece of code, his instructor only noted a few points of correction, indicating that this student, at that point, already showed the technical capability of using the HTML coding language. However, if we look at the example of content that I have highlighted (see boxed text), we can see that this technical competence in using a very technically specific form of English does not also include the linguistic and literacy competence of using English. The “motto” that this student has written: “Don’t Be afraid Be fallen, cause fallen is begin from we jump more higher [sic],” demonstrates the “orrery of errors” that Blommaert and Omoniyi (2006:598) point out in written English produced by speakers from the non-English periphery.

There are errors in capitalization, spelling, and grammar that betray not only problems in literacy but also in constructing English by translating directly from Indonesian. This illustrates the early beginnings of segmented competencies, in which this student’s technological competence in using English-based computer language is quite separate from his linguistic competence in English.

On the other hand, we can consider this use of English, particularly for these “non-technical” aspects of language use in vocational high schools, as a form of commodification practices, in which students use the language for symbolic and commercial purposes and not for denotational purposes. In the case of the vocational technical register, we can clearly see the way English, together with Indonesian, becomes a technical resource for students in learning vocational skill and participating in vocational communities of practice (Wenger 1998) with their peers and broader industries. At the same time, due to exposure to the way companies and mass media in Indonesia use English in advertising (see for example, Sneddon 2003: Chapter 9), students are also perceptive of the symbolic and commercial value of English, particularly in its use in local contexts. Thus, students themselves will also use English in order to make texts they seek to present to seem more “elegant” or at a higher “level” (see Table 1, line 5) than if they use other languages, such as Indonesian or Javanese. As the transcript extract in Table 1 shows, while there is no specific demand for the use of certain languages, students point out the symbolic and commercial value of English as a “commodified language” (Coupland 2003, Heller 2003) and its ability to confer higher symbolic or social “added value” to whatever products they attach it.
Table 2. SMKN Pandanaran students on English

| 1) KT: Kalau yang foto produk itu, label-label kalian sebagian besar bahasanya apa saja? |
| 2) AD: Inggris biasanya. |
| 3) FN: Inggris, Indonesia. |
| 4) KT: Memang produknya produk luar atau gimana? Kenapa kok membuat labelnya paké bahasa Inggris? |
| 5) AD: Bahasa Inggris itu terkesannya lebih elegant gitu, levelnya tinggi.. ((tertawa)). Kalo dibaca kan, "wuehh bahasa Inggris." |
| 6) KT: Apa memang ada tuntutan atau aturan atau kebiasaan menggunakan bahasa-bahasa tertentu? |
| 7) TH : Ya ndak juga sih. Cuman kalo produk itu biar produknya lebih tinggi, misal bahasa Inggris kan bisa naikin level atau apa gitu. |

In a way, this difference between the technological and symbolic function of English explains its deployment in Figure 2. The student understands that it is important to correctly deploy the English-based coding/programming language, since any errors immediately show up in the program (the English HTML commands also do not appear in the final web page presentation). He uses the programming code in accordance to the specific technical demands of the program and task. On the other hand, his use of English in his motto, which actually appears in large text in the published web page, is motivated more by the need to give symbolic added value to his web page. The main point in this case is the use of English forms itself, with less emphasis on whether they conform to the general standards of the English language. Indeed, the web design classroom and the computer program do not correct this aspect of English use, since they all emphasize the technological aspect of competence. Furthermore, his use of this English motto was for the benefit of a local audience (his fellow students). Hence, the value of English as a commodified language in this case is set within the context of the local hierarchy of language evaluation of his immediate surroundings.

The use of English terms in the vocational high school technical register also does not necessarily mean that it replaces other languages that students and teachers may use. In fact, the fragmented way in which vocational high schools use English, either as technical terms, programming language, or as commodification practices, enables student and teachers to integrate it with the other languages that they use for daily communication, mainly Indonesian and English. Table 2 shows an example in which students in the software engineering program in SMKN Bebengan can talk about their English-based programming language (in this case HTML) by integrating it into the combination of Javanese and Indonesian that they often use (Javanese in normal font, Indonesian in bold, English in italics).

Table 2. Student’s multilingual talk

| 1) DW: Maksudé, font ndhisik gèk marquee, ngono? |
| 2) AS: Yo ra kabèh. Tergantung nggonmu nulisé. Misal ning kéné marquee, trus kéné font. Brarti kéné yo= |
| 3) DW: =font sik? |
| 1) DW: I mean, font first then marquee, like that? |
| 2) AS: Well, not all. Depends on what you write. For example here it's marquee, then here it's font. That means here is= |
| 3) DW: =font first? |
The nature of the multilingualism of the technical register gives more emphasis on technological competence and the symbolic or commodified use of English. This enables students to access these English terms as forms of globalized technological practice and skill while also enabling them to “vernacularize” (Appadurai 1996) these global language forms into their local communicative practices, integrating their technological competence, but also the symbolic values associated with English, into their local contexts of interaction.

4. Conclusion

In this paper, I have shown that in addition to vocational skills, vocational high schools teach their students a technical register that combines the use of English technical terms with Indonesian explanations. The technical register provides students with a form of “segmented competence” (Blommaert and Omoniyi 2006) in the various languages it utilizes. The main purpose and emphasis of this technical register is on providing students with a technological competence in using various industrial technical terms, including the use of English-based programming language. The technological register, however, does not provide students with the nuanced linguistic or cultural competence of using English as a language of general communication.

The segmented competence in this technical register means that while students may be able to perform vocational skills that insert them into globalized industrial and technological practices, it does not necessarily confer to them full social entry or participation to global scales or levels of engagement. Of course, students can still use this technical register for participation in the local contexts of school and domestic labour market. They also learn to make use of the symbolic value of the fragmented English of their technical register, especially for local audiences and contexts. As Blommaert (2010) argues, regarding a critical sociolinguistics of globalization, the globalization of language forms occurs through stratified distribution. Some language forms, such as Standard English, allows social mobility across trans-local contexts while other forms, such as the students’ fragmented English, tend to be valued in more limited and local contexts or networks (2010:12). In some situations, people can even consider these fragmented forms of language, like the student’s English motto in Figure 2, as not being languages at all (e.g. Blommaert et al. 2006).

The challenge here is to recognize both the possibilities and structural constraints of the segmented and stratified flow of sociolinguistic globalization. The technological competence afforded by the technical register of vocational secondary education presents possibilities and potentials, at least as a way of enabling the localization of global technological practices and of engaging in global networks, albeit in an initially marginal position. The development of the more nuanced linguistic competence must be prepared with a consideration of the required resources, both social (human capital) and material. As the defunct International Standard School program (Rintisan Sekolah Bertaraf Internasional –RSBI) showed, ambitiously using English as the medium for all forms of educational material (as was the practice, even in SMKN Pandanaran) does not realistically take these requirements into account (cf. Coleman 2011). At the same time, while educators continue to provide students with access and competence to
these various forms of linguistic skills, we must also be willing to critically analyze the stratified flow and language hierarchies that implicitly continue in contexts of globalization.

Acknowledgements

I presented an earlier draft of this paper at the International Conference on Demographic Dividend and Youth: Opportunity, Challenge, and Policy Agenda, organized by the Demography Forum of the Faculty of Social and Political Sciences, Gadjah Mada University, on 30-31 August 2017.

References


