



---

## PROFESSIONAL DIGITAL COMPETENCY OF ENGLISH TEACHER: GENERATION DIFFERENCES

**Wulan Yulian Anggini<sup>1(\*)</sup>, Imam Santosa<sup>2</sup>**  
Universitas Indraprasta PGRI, Jakarta, Indonesia<sup>1</sup>  
Universitas Media Nusantara Citra, Jakarta, Indonesia<sup>2</sup>  
[angginiwulan91@gmail.com](mailto:angginiwulan91@gmail.com)<sup>1</sup>, [imamsantosa1987@hotmail.com](mailto:imamsantosa1987@hotmail.com)<sup>2</sup>

---

### Abstract

Received: 29 September 2022  
Revised: 26 Oktober 2022  
Accepted: 26 November 2022

Teacher professionalism has been instrumental in the understanding of the development of teacher competency. This study aims to examine the level of PDC of English teacher among different generation. This study used the method of qualitative research with the approach of descriptive interpretative analysis. This study employed a descriptive interpretive analytic approach in qualitative research. The subject of this research involved of English teachers in JABODETABEK from the junior high, senior high, and vocational school levels. The result showed that each generation has a different PDC level. Teachers who are involved as baby boomers, Gen X, and millennial, since there is only one Gen Z teacher. Furthermore, teachers who are baby boomers have a high percentage of level none, knowledge, and skills because of the limited respondents. Moreover, teachers who are Gen X have more PDC points with a level of none, knowledge, and skills rather than other generations. In addition, a teacher who is Gen Z has reached competence level in all PDC points. These indicate that each generation has a different PDC level, particularly the preceding generations such as baby boomers, Gen X, and millennial.

**Keywords:** Professional Digital Competency; English Teacher; Generation Differences

(\*) Corresponding Author: [Anggini, angginiwulan91@gmail.com](mailto:Anggini, angginiwulan91@gmail.com)

**How to Cite:** Anggini, W. Y. & Santosa, I. (2023). PROFESSIONAL DIGITAL COMPETENCY OF ENGLISH TEACHER: GENERATION DIFFERENCES. *Research and Development Journal of Education*, 9(1), 139-151.

---

### INTRODUCTION

Teacher professionalism has been instrumental in the understanding of the development of teacher competency. This concern on how teacher develop and maintaining its skills. Many frameworks has been established to convey the skill required by the teacher. In south east Asia, The Southeast Asian Ministers of Education Organization (SEAMEO) constructed the framework of teacher competency to achieve education goal in 2035 (SEAMEO, 2017). In addition, Based on Law 57 of 2021 national standards of education, educators must have competencies that will support the professionalism of educators. these competencies include pedagogic, personal competence, social competence, and professional competence. According to Pantić & Wubbels (2010) teacher competencies framework is an important aspect to keep checking teacher abilities and development. Moreover, the framework is essential to build the trust of the student (Zalech, 2021).

Professionalism is correlated to knowledge, skills, beliefs, behavior, and other professional actions (Khamparia & Pandey, 2018). Accordingly, people who are professional in their work demonstrate through high standards of behavior in practice.

Professionalism is a major component in all professions, specifically for teachers (Buyruk, 2014). Nevertheless, teacher professionalism is not merely about being good, achieving high standards, and being excellent, but also having professional development as a long-term process by paying attention to the development of understanding, skills, and competencies (Richter et al., 2014). The existence of teacher professional development can help to regenerate and enlarge teachers' knowledge, skills, and commitment (Purwantiningsih & Suharso, 2019). This is essential because it can create changes to the curriculum, technology, pedagogy, and other aspects of education such as a potential for affecting the students' success to achieve their learning goals.

As the massive use of technology in education, this leads education to the digital era. The teacher needs to adapt to match with the situation. Previous research showed the importance of this adaptation for the teacher. Teachers, is going through extraordinary changes, including frequently bigger classrooms, more varied students with various requirements, demands from the government, society, and businesses who want greater responsibility, and, most importantly, all of this combined with constantly evolving technology (Sharma, 2018).

Technological competence is a very important component in professionalizing teachers (Malmir, 2020). Additionally, Dehghan (2020) indicated that language teachers are a necessity for various understandings of new technologies for the teaching process to face the challenges in this digital era. Furthermore, to understand and master technology in learning, teachers also need to design their learning technology, as a form of self-development and self-improvement readiness, creative attitude, and professional-pedagogical (Ibragimovna, 2020).

The International Society for Technology in Education (ISTE) declared that the fulfillment of digital professional competencies by teachers will be able to ensure future teachers will be able to help students to upgrade their competencies as well as in using digital technology in a 21st-century society. In Kelentrić et al. (2017) there are seven important competency areas that teachers need to have for the teaching profession; Subject and basic skills, School in society, Ethics, Pedagogy and subject didactics, Leadership of learning processes, interaction, and communication, also Change and development. These competencies and standardization are useful as a guide in developing the professional level of teachers. Recently, the use of digital technology in Indonesia is increasing for the teaching and learning process. This is due to the COVID-19 pandemic since early March 2020; accordingly, the government recommends all schools and institutions for conducting online learning. In a study conducted by Febriani (2020) the implementation of online learning can affect students more creatively and independently, with full guidance from teachers using various communication and information technologies. This occurrence turns into a further challenge for teachers because teachers are required to be able to master technology and use it in teaching, as a result, teacher training is needed (Alabdulkarim, 2021). As stated by Alabdulkarim (2021) the attitude of teachers to technology is the main key to the success of technology-based education.

English teachers in Indonesia face new challenges in the teaching process (Foulger et al., 2017; Habibi et al., 2019). Thus, English teachers need to integrate technology in the classroom as an encouragement for students to achieve learning, target language acquisition, and meaningful learning (Alfia et al., 2020; Rudy, 2017). Although teachers agree with the advantages and benefits of using technology, knowledge, and practice are still lacking (Lubis, 2018; Nugroho & Mutiaraningrum, 2020). Therefore, Nugroho & Mutiaraningrum (2020) confirmed that English teachers in Indonesia must complete professional development for learning activities using technology. However, the development of digital competence is not included in UU No. 14 Tahun 2005 regarding Teachers and Lecturers. It only discussed four competencies of teachers and lecturers

namely Pedagogic Competence, Personality Competence, Social Competence, and Professional Competence. Meanwhile, teachers need digital competency development, which is discussed clearly and completely in the Professionalism digital competency framework from The Norwegian Center for ICT in Education 2017 in (Kelentrić et al., 2017). Therefore, this study aims to examine the level of PDC of English teacher among different generation.

## **LITERATURE REVIEW**

Technology in the 21st century is growing and affecting various aspects such as information, communication, and science (Alfia et al., 2020). Nevertheless, the development of digital technology has become a new challenge for teachers in schools (Foulger et al., 2017; Habibi et al., 2019). Specifically, Habibi et al. (2019); Riegel & Mete (2017) expressed that now teachers must be able to teach digital natives, where students nowadays feel comfortable with digital technology in their lives. In fact, according to Habibi et al. (2019) in their study, English teachers need the integration of ICT in the classroom as a preparation for future teachers. However, technology integration in the classroom must still be done interactively, effectively, and (Alfia et al., 2020). If students feel happy and comfortable in the learning process, then they can achieve learning goals, especially improving language skills with the help of technology (Rudy, 2017). Furthermore, Foulger et al. (2017) mentioned the teacher is responsible for fulfilling their role as a teacher with technology experience. However, according to Mutiaraningrum & Nugroho (2020), the teachers' level of technical skills and knowledge integration is still deficient. Whereas Cirocki & Farrell (2019) stated that the use of technology made learning more effective. In addition, the use of technology in the classroom can improve students' language skills, because there are media based on web technology for students to get language exposure (Alfia et al., 2020; Rudy, 2017; Soifah et al., 2021). Rudy (2017) also pointed out that both teachers and students can benefit from the internet in the learning process.

### **Digital Literacy of English teacher**

Digital literacy is important point for English teacher to have a digital competence for their teaching process (Alfia et al., 2020; Profesorado, et al., 2020; Rodliyah, 2018). Teachers need digital literacy to develop their teaching approaches and obtain new skills in order to improve their students' learning outcome (Fernández-Batanero et al., 2020). Besides that, English teacher who digitally literate will be able to teach and help their students for operating the digital technology in teaching and learning (Hidalgo et al., 2020). Therefore, teachers are expected to not merely utilize digital technology, but also have a digital literacy to help them understand what and how to operate them in classroom. This statement is proven by previous studies which mentioned the importance of teacher's digital literacy for their digital competence (Alfia et al., 2020; Claro et al., 2018; Rodliyah, 2018; Rubach & Lazarides, 2021).

### **English Teacher Professionalism**

Many of the previous literature has investigated how English teachers can use digital technology in the learning process, however, there are still hesitations, particularly for English teachers in Indonesia (Nugroho & Mutiaraningrum, 2020). In fact, according to Lubis (2018) the current era of English teachers requires three main things, as belief, thought, and practice in utilizing digital technology effectively and systematically in the classroom. Even though English teachers in Indonesia believe in the importance of

technology in the classroom, conversely this is not in accordance with the ability and practice of teachers (Nugroho & Mutiaraningrum, 2020).

The teachers' failure in Indonesia in teaching English by using technology is caused by a lack of adequate knowledge and training for teachers (Lubis, 2018). In addition, according to Nugroho & Mutiaraningrum (2020) English teachers specifically EFL teachers in Indonesia need support, especially from the authorities, to adapt learning to the use of technology in these times. Nugroho & Mutiaraningrum (2020) also suggested English teachers in Indonesia need professional development to assist them in technology-based classroom activities, such as seminars and teacher training.

The existence of professionals for English teachers will help teachers to improve their readiness in better learning situations and conditions, especially increasing knowledge and competence as the foundation of the globalization era (Wulyani et al., 2019). In addition, (Lubis, 2018) confirmed the readiness of teachers to face the use of technology in the classroom will create a dynamic learning atmosphere for teachers and good learning outcomes for students. In the study, Cirocki & Farrell (2019), it is mentioned stakeholders have agreed that professional development for English teachers in Indonesia is able to generate professional accomplishment as a result it can create successful student learning goals. Moreover, English teacher in Indonesia need teacher professionalism, for the reason that English teacher nowadays are deal with problems to prepare students capability development (Gandi, 2019).

### **Professional Digital Competence**

Professional Digital Competence Framework is a standard for teachers' digital competence professionally. Besides, PDC aims to assist and ensure teacher quality improvement in the use of ICT to guide their students to achieve learning outcomes and as a learning strategy (Kelentrić et al., 2017). In addition, Helleve et al. (2020) argued that teachers need to have a deeper understanding of digital competencies professionally and create professional learning as well.

There are several frameworks that have been created to track PDC on teachers. One of them is the PDC framework which was adapted from Brown (2009) study by Bardsley & Neill (2016). The framework they created is a combination of elements of teacher resources and instructional resources. Therefore, they use professional development theory, pedagogical beliefs, and pedagogical content knowledge to refine the framework. In addition, there is also a PDC framework from Gudmundsdottir & Hatlevik (2018) with a three-pillar PDC model. The three pillars are generic digital competence, subject/didactic digital competence, and profession-oriented competence. Moreover, there is PDC framework from The Norwegian Centre for ICT in Education 2017 in (Kelentrić et al., 2017).

Professional Digital Competence Framework from The Norwegian Centre consists of seven competency areas of the teacher along with an explanation of the knowledge, skills, and competencies in each competency. The researcher chose this PDC framework because it has clear and complete competencies to develop teacher digital competencies professionally. In addition, each competency has a level, namely the level of knowledge, skill, and competence. Each level also has an explanation in the form of points about its indications. Therefore, it is expected that the PDC framework can help researchers to answer both research questions related to the level of teacher PDC and the required suggestion programs.

## METHODS

This study employed a descriptive interpretive analytic approach in qualitative research. Since the goal of this study was to provide insight into the degree of professional digital competency development among different generation, especially among English educators in JABODETABEK, the qualitative research approach was used. Creswell (2009) confirmed that using the perspectives of participants, qualitative research may detect the phenomena socially. The process of summarizing, clarifying, and analyzing the data that was gathered was also included in this study design. Additionally, the study used a descriptive analysis technique to analyze the PDC level of English teachers. By using digital surveys to gather data, the researcher was able to investigate the issue relating to the PDC level of English instructors in JABODETABEK. The place of this study is schools in JABODETABEK. They are English teachers from junior high, senior high, and vocational schools located in JABODETABEK. Specifically, there were various junior, senior high, and vocational of each areas in JABODETABEK. The subject of this research involved of English teachers in JABODETABEK from the junior high, senior high, and vocational school levels. The researcher came and distributed the questionnaires to English educator in JABODETABEK.

To categorized the generation, Many researchers classified the generation based on their born range complete with each appellation. The researcher found ten studies that build the generation category. Mostly, there are four-generation categories, namely baby boomers, generation X, generation Y or millennial, and generation Z (Barford & Hester, 2011; Durukan & Gül, 2019; Enam & Konduri, 2018; Goh & Lee, 2018; Jiří, 2016; Koksál, 2019; Rickes, 2016; Šedík et al., 2018; Sloomweg & Rowson, 2018; Sweet et al., 2017). The year range of each generation was demonstrated in the form of the table below:

**Table 1.**  
 Generation Category Based on Previous Studies

<b>Name (Year)</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Barford & Hester (2011)	-	Baby Boomers 1946 - 1964	Generation X 1965 - 1979	Generation Y 1980 - 2000	-
Bejtkovský (2016)	Tradisionalist 1945 - Before	Baby Boomers 1946 - 1964	Generation X 1965 - 1976	Millenials / Gen Y 1977 - 1995	iGen / Generation Z 1996 - After
Rickes (2016)	Silent Generation 1925 - 1942	Baby Boom Generation 1943 - 1960	Generation X 1961 - 1981	Millenial Generation 1982 - 2004	Generation Z 2005 - After
Sweet & Swayze (2017)	Tradisionalist 1946 - Before	Baby Boomers 1947 - 1964	Generation X 1965 - 1976	Millenials / Gen Y 1997 - 1993	Generation Z (Nexters) 1994 - After
Enam & Konduri (2018)	Silent Generation 1925 - 1943	Baby Boomers 1944 - 1964	Generation X 1965 - 1981	Millenials 1982 - 2000	-
Goh & Lee (2018)	-	Baby Boomers 1945 - 1964	Generation X 1965 - 1979	Generation Y 1980 - 1998	Generation Z 1999 - 2009
Šedík, et al (2018)	-	Baby Boomers 1946 - 1964	Generation X 1965 - 1977	Millenials / Gen Y 1978 - 1994	Generation Z 1995 - After
Sloomweg &	-	Baby Boomers	Generation	Generation Y	-

Rowson (2018)	-	1946 - 1964	1965 - 1980	1981 - 1995	-
Durukan, & Gül(2019)	-	Baby Boomers	Generation X	Millenials / Gen Y	Generation Z
	-	1945 - 1964	1965 - 1979	1980 - 1999	2000 - After
Koksal (2019)	-	Baby Boomers	Generation X	Millenials	Generation Z
	-	1950 -1964	1965 - 1979	1980 - 1994	1995 - 2000

*Resource: Researcher (2022)*

Therefore, the researcher formulated the generation category based on ten studies by calculating the average of all ranges of birth years in each generation category. Baby Boomers were born between 1946-1964 or 76-58 years old in 2022; Generation X was born between 1965-1979 or 57-43 years old in 2022; Millennials/Generation Y was born between 1980-1997 or 42-25 years old in 2022; Generation Z was born between 1998-After or 24 years old in 2022 and before.

Research instruments are tools for researchers and have an important role in obtaining data for analysis (Creswell, 2009). The researcher used a closed-ended questionnaire in Google Form with four Likert scale points as a study instrument to address issues about the PDC level. Kumar (2002); Sreejesh et al. (2014) stated that with a closed-ended questionnaire, researchers can obtain responses that are limited according to the choices provided and are accurate. The Likert scale for the questionnaire that was used namely strongly agree, agree, disagree, and strongly disagree. The researcher avoided the answer neither agree nor disagree, to avoid neutrality of the response.

Researcher used Google Form to collect data from the outcomes of digital questionnaire replies, which they then examined. Each PDC level was determined by processing the findings of the replies to the PDC teacher survey in Microsoft Excel. Every educator's reaction was examined by the researcher, with a focus on 57 indicator points in seven PDC. According to the Likert scale, "strongly agree" and "agree" imply that instructors can do what is intended to be indicated, whereas "disagree" and "strongly disagree" indicate that teachers can't do what is intended to be indicated. In order to assess if the educators were at any level, any degree of knowledge, any level of skill, or any level of competence. The average proportion of all instructors who have not attained competency level in each PDC was also provided by the researcher. The level competence divided into 3 level, no competence (0-0.99), knowledge (1.00-1.99), skill (2.00-2.99), and competence (3.00-4.00).

## RESULTS & DISCUSSION

This study aimed to see the competence of Professional digital competence of educators across different generation. The participant consisted of 59 educators which have the range of age was 24-59 years. The overall result as mentioned in the table below. Many researchers categorize the generation based on their age or years. There are five-generation categories, namely traditionalist or silent generation, baby boomers, generation X, generation Y or millennial, and generation Z (Barford & Hester, 2011; Durukan & Gül, 2019; Enam & Konduri, 2018; Goh & Lee, 2018; Jiří, 2016; Koksal, 2019; Rickes, 2016; Šedík et al., 2018; Sloopweg & Rowson, 2018; Sweet et al., 2017). Moreover, the researcher found ten references that state and build a generation categorize. Therefore, the researcher formulated the generation category based on ten studies in the table below.

**Table 2.**

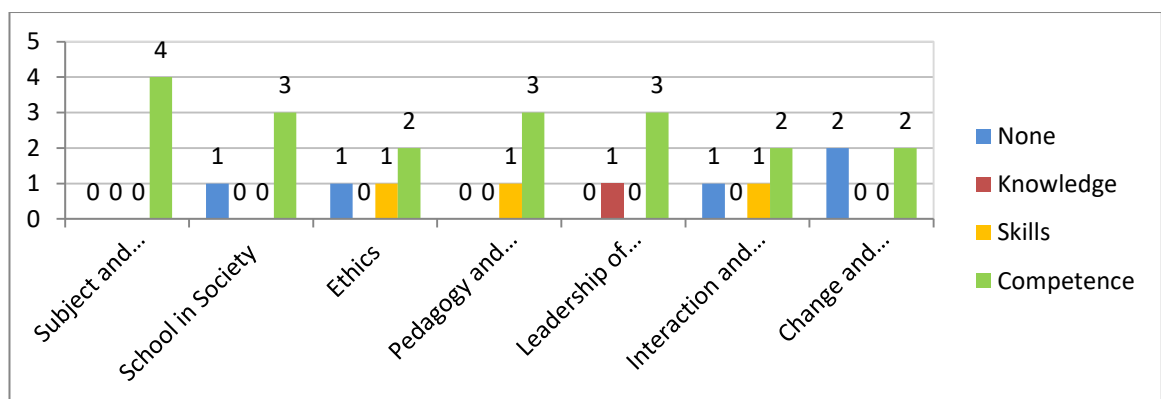
Generation Category			
Generation	Year Range	Age (in 2022)	Total
Baby Boomers	1946 – 1964	76 – 58	4
Generation X	1965 – 1979	57 – 43	28
Millennial/Generation Y	1980 – 1997	42 – 25	26
Generation Z	1998 - After	24 - Before	1

The table above shows the range of year, age, and the total of each generation category. Accordingly, teachers who belong to Gen X are the highest number, and teachers who belong to Gen Z are the least number. Furthermore, each generation category was analyzed, particularly regarding the PDC level. Then, the researcher compared the level differences between the fourth generations. The PDC level by generation for each PDC has been represented in a clustered column as follows:

**a) Baby Boomers**

The chart below consists of the responses of 4 teachers who were categorized as Baby Boomers. Accordingly, from the fourth teacher, there are several competencies that have skill, knowledge, and even no level of PDC. Since the number of teachers is few, there is no clear various result of PDC level in this generation category. However, this result shows that some teachers are able to reach the competency level in every PDC.

Moreover, there are teachers who have no level in four competencies, especially Change and Development competency as highest number. This indicates that the teachers find it difficult to have knowledge, skills, and competency regarding the last PDC point. Besides, the level of skill is merely in one competency, particularly Leadership and Learning Processes. Furthermore, the skills level was found in three competencies with an equal number. In addition, the competency level in all PDC, especially in Subject and Basic Skills where all teachers have reached this level.



**Chart 1.**

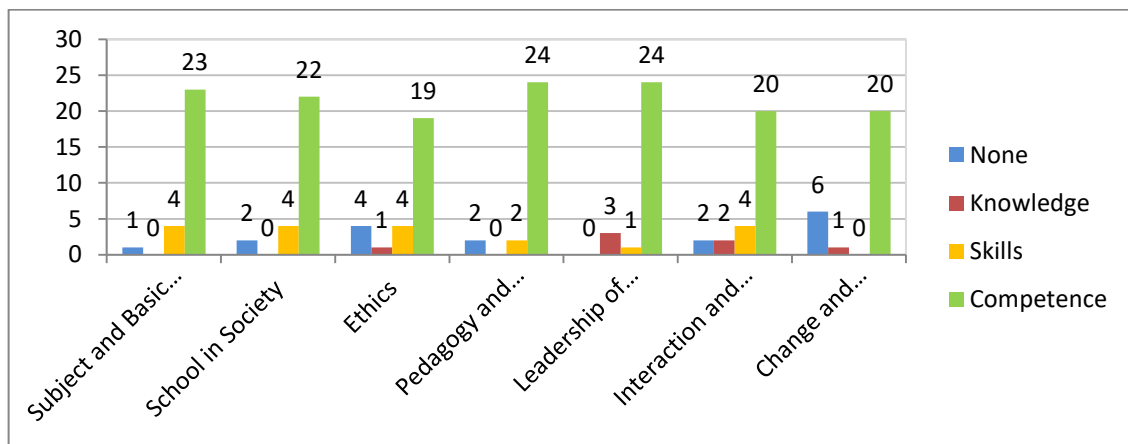
PDC level of Baby Boomer Teachers

**b) Generation X**

Based on the chart below, there are various PDC levels of 28 teachers who belong to Generation X. Most teachers have reached the level of competency. This represents that many Gen X teachers accomplished the level of competency in each PDC. Nevertheless, there are teachers who are still in the level of knowledge, skills,

and even none level. Therefore, certain Gen X teachers finds it difficult to attain competence level in particular PDC.

Specifically, most Gen X teachers already reached competence level in every PDC point. Other than that, there is the least number of teachers that have not the level in six PDC. This can be seen clearly that Change and Development is the highest number of Gen X teachers at 6 or 21% who have no level. Furthermore, the knowledge level is simply in four different PDC points which Leadership and Learning Processes as the highest number. Accordingly, the level of knowledge is the smallest rather than other levels. Moreover, the skills level is in six PDC points. Uniquely, there are four PDC with equal numbers, mainly 4 from 28 Gen X teachers. This signifies the similar level reached by intended teachers.



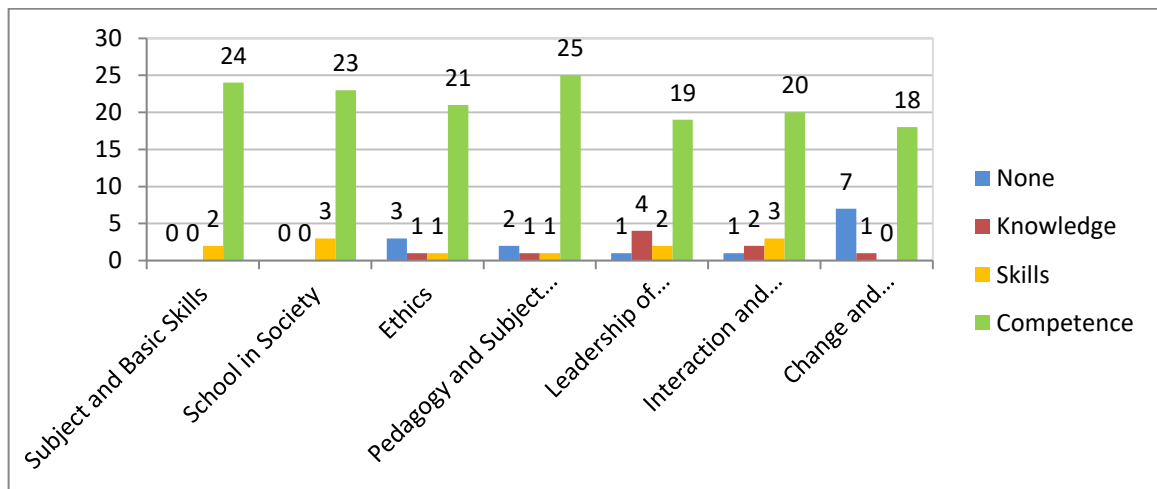
**Chart 2.**  
PDC Level of Gen X Teachers

**c) Millennial/Generation Y**

According to the chart below, most Generation Y or millennial teachers have reached competence level in every PDC point. This can be seen, among 26 Millennial teachers, more than 18 teachers achieved the level of competence. Nevertheless, there are least teachers who still in the level of knowledge, skills, and even have no level. Therefore, not all millennial teachers mastered PDC in the digital era.

Furthermore, the competence level is the highest number, especially in Subject and Basic Skills. However, millennial teachers that have no level still can be found in five PDC, particularly Change and Development. This signifies that 7 or 27% of teachers do not obtain this competence at all. Other than that, knowledge level is the small number, where the highest number is in Leadership of Learning Processes. In addition, skills level exists in six PDC points with slight numbers of each competence. Hence, millennial teachers have few teachers who have not reached the level of competence in PDC.

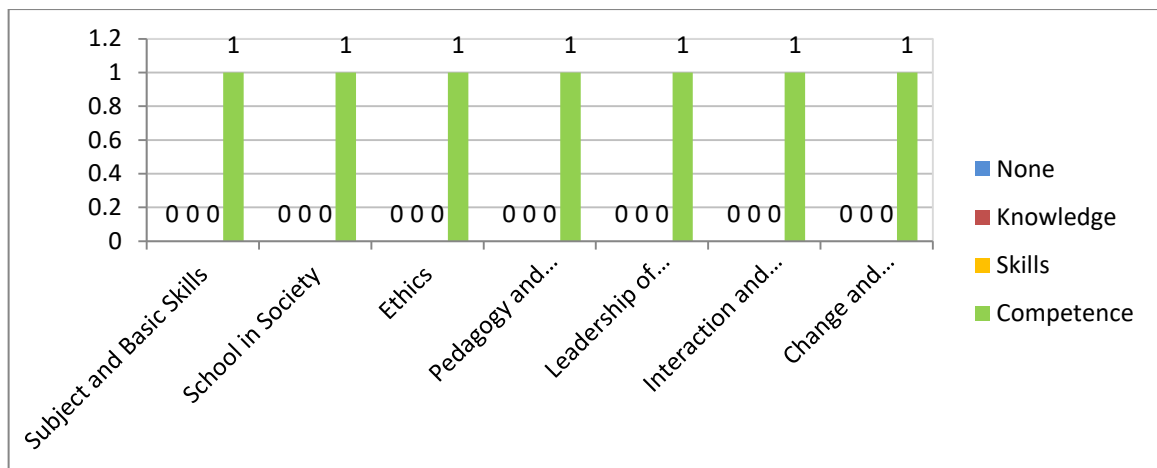




**Chart 3.**  
PDC level of Millennial Teachers

**d) Generation Z**

The chart below represents the PDC level of Generation Z teachers. Surprisingly, there is only one teacher who is included in this generation category. Therefore, there is no various PDC level for the teacher since the respondent refer to competence level. Moreover, the result shows that this Gen Z teacher have reached the competency level of PDC. This reveals that Gen Z teacher has mastered digital competence professionally.



**Chart 4.**  
PDC level of Gen Z Teachers

Based on the fourth chart above, each generation has a different PDC level. Teachers who are involved as baby boomers, Gen X, and millennial, since there is only one Gen Z teacher. Furthermore, teachers who are baby boomers have a high percentage of level none, knowledge, and skills because of the limited respondents. Moreover, teachers who are Gen X have more PDC points with a level of none, knowledge, and skills rather than other generations. In addition, a teacher who is Gen Z has reached competence level in all PDC points. These indicate that each generation has a different PDC level, particularly the preceding generations such as baby boomers, Gen X, and millennial.

## CONCLUSION

Teacher professionalism has been instrumental in the understanding of the development of teacher competency. This study aims to examine the level of PDC of English teacher among different generation. Teachers who are involved as baby boomers, Gen X, and millennial, since there is only one Gen Z teacher. Furthermore, teachers who are baby boomers have a high percentage of level none, knowledge, and skills because of the limited respondents. Moreover, teachers who are Gen X have more PDC points with a level of none, knowledge, and skills rather than other generations. In addition, a teacher who is Gen Z has reached competence level in all PDC points. These indicate that each generation has a different PDC level, particularly the preceding generations such as baby boomers, Gen X, and millennial.

## REFERENCES

- Alabdulkarim, L. (2021). University health sciences students rating for a blended learning course framework: University health sciences students rating. *Saudi Journal of Biological Sciences*, 28(9), 5379–5385. <https://doi.org/10.1016/j.sjbs.2021.05.059>
- Alfia, N., Sumardi, S., & Kristina, D. (2020). Survival Skills in Digital Era: An Integration of Digital Literacy into EFL Classroom. *Indonesian Journal of EFL and Linguistics*, 5(2), 435. <https://doi.org/10.21462/ijefl.v5i2.307>
- Barford, I. N., & Hester, P. T. (2011). Analysis of Generation Y Workforce Motivation Using Utility Theory. *Defense Acquisition Research Journal: A Publication of the Defense Acquisition University*, 18(1), 63–80.
- Buyruk, H. (2014). “Professionalization” or “Proletarianization”: Which Concept Defines the Changes in Teachers’ Work? *Procedia - Social and Behavioral Sciences*, 116, 1709–1714. <https://doi.org/10.1016/j.sbspro.2014.01.460>
- Cirocki, A., & Farrell, T. S. C. (2019). Professional development of secondary school EFL teachers: Voices from Indonesia. *System*, 85, 102111. <https://doi.org/10.1016/j.system.2019.102111>
- Claro, M., Salinas, A., Cabello-Hutt, T., San Martín, E., Preiss, D. D., Valenzuela, S., & Jara, I. (2018). Teaching in a Digital Environment (TIDE): Defining and measuring teachers’ capacity to develop students’ digital information and communication skills. *Computers and Education*, 121, 162–174. <https://doi.org/10.1016/j.compedu.2018.03.001>
- Creswell, J. W. (2009). Research Design - Qualitative, Quantitative, and Mixed Methods Approaches. In S. Hudson, L. Cantrell, N. Nette, D. Tonack, R. Ostrander, & D. Greenlee (Eds.), *Intercultural Education* (Third, Vol. 20, Issue 2). SAGE Publications, Inc. <https://doi.org/10.1080/14675980902922143>
- Dehghan, F. (2020). Teachers’ perceptions of professionalism: a top-down or a bottom-up decision-making process? *Professional Development in Education*, 00(00), 1–10. <https://doi.org/10.1080/19415257.2020.1725597>
- Durukan, A., & Gül, A. (2019). Mindful eating: Differences of generations and relationship of mindful eating with BMI. *International Journal of Gastronomy and Food Science*, 18, 100172. <https://doi.org/10.1016/j.ijgfs.2019.100172>
- Enam, A., & Konduri, K. C. (2018). Time Allocation Behavior of Twentieth-Century American Generations: GI Generation, Silent Generation, Baby Boomers, Generation X, and Millennials. *Transportation Research Record*, 2672(49), 69–80. <https://doi.org/10.1177/0361198118794710>
- Febriani, S. R. (2020). Implementation of Arabic learning during COVID-19 emergency

- in Indonesia: HOTS, MOTS, or LOTS?. *Alsinatuna*, 5(2), 117-129.
- Fernández-Batanero, J. M., Montenegro-Rueda, M., Fernández-Cerero, J., & García-Martínez, I. (2020). Digital competences for teacher professional development. Systematic review. *European Journal of Teacher Education*, 00(00), 1–19. <https://doi.org/10.1080/02619768.2020.1827389>
- Foulger, T., Graziano, K., Schmidt-Crawford, D., & Slykhuis, D. (2017). Teacher Educator Technology Competencies. *Journal of Technology and Teacher Education*, 25(4), 413–448.
- Gandi, N. D. (2019). Competence Of Indonesian English Foreign Language Teachers: A Profile Of Exemplary Teacher. *LangEdu Journal*.
- Goh, E., & Lee, C. (2018). A workforce to be reckoned with: The emerging pivotal Generation Z hospitality workforce. *International Journal of Hospitality Management*, 73(January), 20–28. <https://doi.org/10.1016/j.ijhm.2018.01.016>
- Gudmundsdottir, G. B., & Hatlevik, O. E. (2018). Newly qualified teachers' professional digital competence: implications for teacher education. *European Journal of Teacher Education*, 41(2), 214–231. <https://doi.org/10.1080/02619768.2017.1416085>
- Habibi, A., Razak, R. A., Yusop, F. D., & Mukminin, A. (2019). Preparing future EFL teachers for effective technology integration: What do teacher educators say?. *Asian EFL Journal*, 21(2), 9–30.
- Helleve, I., Grov Almås, A., & Bjørkelo, B. (2020). Becoming a professional digital competent teacher. *Professional Development in Education*, 46(2), 324–336. <https://doi.org/10.1080/19415257.2019.1585381>
- Hidalgo, F. J. P., Parra, M. A. E. G., & Abril, C. A. H. (2020). Digital and media competences: Key competences for EFL teachers. *Teaching English with Technology*, 20(1), 43–59.
- Ibragimovna, Y. O. (2020). Professional Training Of A Foreign Language Teacher. *European Journal of Research and Reflection in Educational Sciences*. 8(2), 216–219.
- Jiří, B. (2016). The employees of baby boomers generation, Generation X, Generation Y and Generation Z in selected czech corporations as conceivers of development and competitiveness in their corporation. *Journal of Competitiveness*, 8(4), 105–123. <https://doi.org/10.7441/joc.2016.04.07>
- Kelentrić, M., Helland, K., & Arstorp, A.-T. (2017). Professional Digital Competence Framework for Teachers. In *The Norwegian Centre for ICT in Education* (Vol. 134, Issue 1, pp. 1–74).
- Khamparia, A., & Pandey, B. (2018). SVM and PCA based learning feature classification approaches for e-learning system. *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)*, 13(2), 32-45.
- Knight-Bardsley, A., & McNeill, K. L. (2016). Teachers' Pedagogical Design Capacity for Scientific Argumentation. *Science Education*, 100(4), 645–672. <https://doi.org/10.1002/sce.21222>
- Koksal, M. H. (2019). Differences among baby boomers, Generation X, millennials, and Generation Z wine consumers in Lebanon: Some perspectives. *International Journal of Wine Business Research*, 31(3), 456–472. <https://doi.org/10.1108/IJWBR-09-2018-0047>
- Kumar, R. V. (2002). Questionnaire Design. *Indian Institute of Social Welfare and Business Management*.
- Lubis, A. H. (2018). Reflective Teaching Toward Efl Teachers' Professional Autonomy: Revisiting Its Development in Indonesia. *International Journal of Education*, 11(1), 35. <https://doi.org/10.17509/ije.v11i1.9400>

- Malmir, A., Salehizadeh, S., & Shabani, M. B. (2020). Professionalism: The perceptions of Iranian English teachers of competence and performance in language teaching. *Iranian Journal of English for Academic Purposes*, 9(1), 1-14.
- Mutiaraningrum, I., & Nugroho, A. (2020). Social construction of knowledge in synchronous text-based discussion during English language learning. ... *Language*.
- Nugroho, A., & Mutiaraningrum, I. (2020). EFL teachers beliefs and practices about digital learning of English. *EduLite: Journal of English Education, Literature and Culture*, 5(2), 304. <https://doi.org/10.30659/e.5.2.304-321>
- Pantić, N., & Wubbels, T. (2010). Teacher competencies as a basis for teacher education - Views of Serbian teachers and teacher educators. *Teaching and Teacher Education*. <https://doi.org/10.1016/j.tate.2009.10.005>
- Profesorado, D. E. F. D. E. L., Blanca, S., & Topete, D. (2020). *Trabajo Fin de Grado 21 st CENTURY SKILLS: INTEGRATING DIGITAL COMPETENCE IN THE SPANISH EFL PRIMARY EDUCATION CURRICULUM Competencia Digital: Una propuesta para su integración en el currículo español de primaria del inglés como lengua extranjera. June.*
- Purwantiningsih, A., & Suharso, P. (2019). Improving Teacher Professionalism Toward Education Quality in Digital Era. *Journal of Physics: Conference Series*, 1254(1). <https://doi.org/10.1088/1742-6596/1254/1/012019>
- Richter, D., Kunter, M., Klusmann, U., Lüdtke, O., & Baumert, J. (2014). Professional development across the teaching career: Teachers' uptake of formal and informal learning opportunities. *Teachers' Professional Development: Assessment, Training, and Learning*, 97–121. <https://doi.org/10.1007/978-94-6209-536-6>
- Rickes, P. (2016). Generations in Flux: How Gen Z Will Continue to Transform Higher Education Space. *Planning for Higher Education*, 44(4), 21.
- Riegel, C., & Mete, R. (2017). A closer look at educational technologies for K-12 learners: What digital natives can teach digital immigrants and what digital immigrants can teach digital natives. *Educational Planning*, 24(4), 49–58.
- Rodliyah, R. S. (2018). Vocational school EFL teachers' practices of integrating ICT into English lessons: Teachers' voices. *Indonesian Journal of Applied Linguistics*, 8(2), 418–428. <https://doi.org/10.17509/ijal.v8i2.13309>
- Rubach, C., & Lazarides, R. (2021). Addressing 21st-century digital skills in schools – Development and validation of an instrument to measure teachers' basic ICT competence beliefs. *Computers in Human Behavior*, 118(December 2020), 106636. <https://doi.org/10.1016/j.chb.2020.106636>
- Rudy, R. I. (2017). The dynamics of EFL teaching in Indonesia: Be innovative teachers through social media. *English Language Teaching and Research*, 1(1), 29–37.
- Seameo. (2017). *Southeast Asia Teachers Competency Framework (SEA-TCF)*. <https://www.seameo-innotech.org/seameo-high-officials-approve-competency-framework-for-teachers/>
- Sharma, M. M. (2018). Teacher in a digital era. *Global Journal of Computer Science and ...* <https://computerresearch.org/index.php/computer/article/view/1633>
- Slootweg, E., & Rowson, B. (2018). My generation: A review of marketing strategies on different age groups. *Research in Hospitality Management*, 8(2), 85–92. <https://doi.org/10.1080/22243534.2018.1553369>
- Soifah, U., Jana, P., & Pratolo, B. W. (2021). Unlocking digital literacy practices of EFL teachers. *Journal of Physics: Conference Series*, 1823(1). <https://doi.org/10.1088/1742-6596/1823/1/012030>
- Sreejesh, S., Mohapatra, S., & Anusree, M. R. (2014). Business Research Methods. In *Business Research Methods* (Issue July). <https://doi.org/10.1007/978-3-319-00539-3>

- Sweet, J., College, R., & Swayze, S. (2017). The Multi-Generational Nursing Workforce: Analysis of Psychological Capital by Generation and Shift. *Journal of Organizational Psychology, 17*(4), 19.
- Wulyani, A. N., Elgort, I., & Coxhead, A. (2019). Exploring EFL teachers' English language proficiency: Lessons from Indonesia. *Indonesian Journal of Applied Linguistics, 9*(2), 263–274. <https://doi.org/10.17509/ijal.v9i2.20217>
- Zalech, M. (2021). Student perception of pe teachers and its effect on their participation in pe classes and sports: A new perspective on teacher competencies. *Journal of Physical Education and Sport. https://doi.org/10.7752/jpes.2021.s2139.*