



## Research Article

# HOW TEACHER ROLE HAS CHANGED IN DIGITAL AGE – A CASE STUDY OF NGUYEN TAT THANH UNIVERSITY

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## ABSTRACT

*Alongside with the development of ICT, the emergence of digital technologies and their penetration into all levels of education has challenged higher education institutions to redefine their teaching role. Our theoretical perspective and the nature of the research questions calls for a qualitative approach. Data was collected from two main sources, interviews and the content analysis of the previous researches. The researchers conducted semi-structured interviews with 11 professors and lecturers in Nguyen Tat Thanh University. By transcribing and analyzing the recorded data, new teacher roles are emerged and explored. The research findings showed that the teacher role changes in three main activities: (1) preparing lectures; (2) teaching activities in classroom and (3) supporting students.*

**Keywords:** digital age; higher education; information communication technology; teacher role

## 1. Introduction

Weller and Anderson (2013) presented that the boom of digital technologies development into all levels of educations has not only reconstructed teachers' identity but also redesign higher education's organizational infrastructure. In order to prepare for students facing multiple challenges in the workplace of the 21<sup>st</sup> century, the teachers' role play as the most important position in managing the students' activities (Maldonado et al., 2011). In other words, in this era of student-centred, collaborative, constructivist learning augmented by digital tools, social networks, featuring students' autonomy, self-direction and independence, the role of teachers in education is undergoing continuous evolution –moving teachers away from the epicenter of the teaching-learning dynamics (Beaudoin, 2013). In addition, according to Maldonado et al. (2011), the type of role the teacher playing in the digital age is impacted by the technology acceptance and adoption behavior. Besides the impact of technology acceptance, the emergence of a new generation of students who were

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born during the digital age is still the other challenge for teacher in higher institution (Prensky, 2001a).

Collins and Halverson (2009) showed many debates about the new technology in higher education context such as uniform learning vs. customization, teacher as expert vs. diverse knowledge sources, standardized assessment vs. specialization, knowledge in the head vs. reliance on outside resources, coverage vs. knowledge explosion, and learning by acquisition vs. learning by doing. Therefore, the development of ICT and digital technologies play an important role in teaching and learning environment and require teachers adapting new roles to cope with the changing demand of students.

In Vietnam, the reform of the education system has been considered as “a matter of urgent national importance” to meet the needs of globalisation and digital age (Nguyen & Hall, 2016). Therefore, teachers have been received an important role to educate a labour force with necessary knowledge and skills for integration into the globalised world such as “life skills, creative ability, ability to perform practical skills, foreign languages and information technology proficiency” (Prime Minister, 2012). In other words, there is a shift in the roles of teacher and students that teachers play a role as facilitator and nurturer of creativeness. In order to explore and have an insight view the changing roles of teachers in this age, the qualitative study was conducted in Nguyen Tat Thanh University with the specific following research questions:

- RO1: How often do lecturers in the university access digital technologies for instruction and research?
- RO2: To what extent and in which ways has the use of digital technologies changed the traditional practices and activities of lecturers

## **2. Literature review**

The increasing use of digital technologies in supporting teaching activities in higher education place new demands on the tasks and responsibilities of the teacher and can influence their roles. To having a well-understood about the teacher’s new roles, some studies applied socio-cultural perspectives on learning which focus on knowledge and learning as social, situated, distributed, mediated activity (Vygotsky, 1986).

Beaudoin (2013) indicated that with an integral part of digital technology, teacher’s roles are embedded in a teaching-learning environment so they change role of teachers in many ways (Crook et al., 2010). These include the balance of roles they play with a perceived risk of reduced influence; providing greater access to information, leading to increased interest in teaching and experimentation; requiring more collaboration and more communication with teachers, administrators and parents, requiring more planning and energy, requiring the development of skills and knowledge of ICT; providing more time to engage with students; and leading to greater productivity.

Kreijns et al. (2013) reviewed previous studies and pointed some factors including teacher's beliefs about how their students learn; and the types of ICT resources teachers choose to use; their knowledge about their own subjects and the potential of the technology to enhance learning. Paralell to the traditional pedagogical teaching styles such as lecturing and mentoring, new researches also suggested the "effectiveness of new technologies in the learning process depends on the 'centrality' of the role of the teacher in rendering the students' experiences with the computer and other digital devices" (Leask, & Pachler, 2013)

Not only in the world but also in Vietnam, lecturer is the resource who lays the foundation for training, fostering and developing high quality human resources (Pham, 2016). According to Education Law 2019, in an oriented approach, first of all, lecturer must "undertake with the role as a teacher", then "the role of scientist and also a role of service provider". This is the traditional role and the main role to define lecturer's role to communicate, provide knowledge, skills, and information to learners. In agreement with that poin of view, Vu (2009) mentioned that three main roles are shown through process of teaching, research and community service. To implement these basic roles, a lof of efforts from lecturers, from university and community are required since "the teacher is always seen as having much better knowledge than students" and students are expected to respect the teacher at all costs (Pham, 2010).

Moreover, lecturer's roles are in facing some challenges. Nowsaday, the teaching method becomes more practical, flexible and learner-center (Nguyen, 2018). We can see that now the role of a lecturer becomes very supportive. He is not the only person who master knowledge but instruct students to access to knowledge thanks to technology (Nguyen, 2017). Therefore, another challenge in the role of today's lecturers is have better handle the technical things as well as they have better knowledge of technical devices compared to the past (Tran, 2018). According to Nguyen (2017), one of the most important changes in university is team activity then lecturer needs to change to adopt the student's exxpectation. That leads to all of members, including lecturer, "have to proactive in their work, not rely on a few knowledgeable and active people in the group" (B-4/6 National University of Ho Chi Minh City – Workshop CDIO 2010).

By the summary, it's very important that teachers need to be aware the impact of digital technologies on the interactions of teacher-learner, learner-teacher and learner-learner interactions as well as the social context surrounding the use of digital technologies and how it is shaped by them (Leask & Pachler, 2013). In other words, as Lanham (2006) presented the social, technological challenges and changes have created "an extraordinary convergence", catalyzing fundamental shifts in higher education, allowing more interactive learning, and giving students the ability to interrogate or even create knowledge, instead of simply absorbing it. So, investigating the roles of teachers in Higher education in a Digital

age will highlight on the availability and use of digital technologies for teaching and learning and how such technologies impact on teachers roles.

### **3. Research methodology**

There are many methods for collecting the qualitative data, such as interviews, sampling secondary data, observation questionnaires. However, since the research aims at exploratory and obtaining validate and reliable information, interviews will be applied in this research. Interviews is used to discover preliminary insights of what subject thinks or believes about the topic of concern or why the subject exhibits certain behavior. Moreover, interviews allows the researchers to have respondents communicate as much detail as possible about his/her knowledge and behavior towards a given topic/ object.

Probing will be used in some questions to draw deeper and more elaborate explanations from the discussion. We conducted interviews in Vietnamese, and later translated into English. In order to main the content reliability, back translation was applied. Furthermore, in each interviews, we informed and got the permission from the participants to tape record, and thus this research could reduce the lost of information.

The selection of cases is purposeful and involves using replication logic and largely depends on the conceptual framework developed from prior theory. Whichever of the 15 case selection strategies is used, “the underlying principle that is common to all of these strategies is selecting information rich cases”, that is, cases worthy of in- depth study (Patton, 1990, p. 181; emphases added). This issue of information richness is fundamental to deciding on the number of cases. Opinions range from a number between 4 and 10 cases as manageable to as many as are required to achieve theoretical saturation whereby adding additional cases makes no difference to the findings (Guba & Lincoln, 1994). This issue of information richness is fundamental to deciding on the number of cases. In each situation, an individual person is the case being studied, and the individual is the primary unit of analysis.

Multiple case studies will be conducted to make cross-case analysis in order to uncover how teachers’ roles change in the digital age and explore the difference from the young and the old lecturers or difference from faculties. Thus, purposive and snowball sampling technique were be applied.

Firstly, this research will select 3 cases of higher education teachers who works in 3 faculties. Characteristics that this research based on to select the respondents taking part in the interviews include: (1) have at least three years in teaching seniority; (2) hold a master degree; and (3) have knowledge related to digital technology. This type of technique is called purposive sampling.

After interviewing three cases, we ask each case to nominate one more person, who has the same criteria as the interviewee. This type of technique is called snowball sampling.

In sum, we have total 11 cases, including: 3 lecturers of Faculty of Pharmacy; 4 lecturers of Faculty of Department of Philosophy; 4 lecturers from Faculty of Tourism, Faculty of Health Care, Faculty of Biological Technology and Nguyen Tat Thanh International Institute.

#### **4. Results and discussion**

The research question of the study aimed at finding out the impacts of using digital technologies on lecturers' perceived new roles. The findings of the research showed that technology acceptance and adoption make an important contribution in an individual's propensity towards technology especially ICT use. These findings confirm with previous studies suggesting that ICT preferences of individual's intellectual status are important factors to individual's technology use and preferences (Thinyane, 2010; Ritzhaupt et al. 2013).

Firstly, the results of the interviews presented that lecturers' role changing in the way of preparing learning material.

Almost lecturers use laptop and projectors in teaching and researching. In addition, they also use built-in camera, mobile phone and some software for producing and presenting learning materials (including ppt files, multimedia lecturers, teaching video, question bank).

"I use laptop to design multimedia lessons (like a teaching video) to illustrate the process or equation for my student better understanding".

We can see teacher in the twenty-first century becomes a 'digital teacher'. He is not only the facilitator for knowledge but also responsible for guiding students to increasing employability skills like information technology. They also need to enrich their technology skills to develop their students. Otherwise, students might not get the lesson nor proactively join in their classes.

Moreover, some of them added that digital equipment with internet support helps both lecturers and student can access, update and download more knowledge in easily way.

"I also use laptop to design and edit teaching video and question bank in Moodle software as NTTU requirements".

This finding confirms that one of the most powerful forces changing teachers' and students' role in education is new technology. In terms of digital technology access and usage, the results show that lecturers that teach English subjects appears to have more access and use digital technologies and software as compared to the others.

"Students love to learn vocabulary through playing game rather than learning from a dictionary. We need to design some puzzles in Quizlet software. And I recommend student using Otter to record their voices and send them to me to check and give feedback. Of course, you need to pay fee for using these software. But it is worthy."

In a digital age, although students can find full of resources on the internet, the requirements for teacher to bring different ways of learning is a must (Beaudoin, 2013).

Effective lecturers should not limit the learning resources for the students. In order to provide practical examples in the classroom, they need to spend much time at home to invest to their lessons. The researcher also agrees that students nowadays are not consumers of facts. They became active creators of knowledge. And teaching is recognized as one of the most challenging and respected career that vital to the economic, cultural and social fields (Collin, 2010). These changes lead our teachers to change to fully adapt the new environment.

One important finding is there are different levels in access and using digital technology between old and young lecturers. These below sharing from a lecturer in pharmacy fields, who spent over 40 years teaching, from the day that she taught based on books, then transforming into slideshow via projectors, till today that our university has online learning system to allow students interacting with lecturers.

“20 years ago, the teaching and learning activities happen mainly in classroom with some pictures or templates. Sometimes, students had opportunities to go outside to observe the real medicine. 10 years ago, when laptop and projectors become popular, I could present and show them the medicine through internet in our classroom. Now we create online software that allows students to interact with lecturers.

Perhaps my generation is too old to catch information technology like students, we need someone to support to design online lessons.”

The reason for the disparity in digital technology use could be partly due to technology acceptance and subject’s requirement, as well as technological knowledge of lecturers. Therefore, it’s very important that teachers need to be aware of impact of digital technologies on the interactions of teacher-student (Leask, & Pachler, 2013).

Secondly, lectures’ role changing in the way of teaching in class.

In the past, teaching seemed to be understood that happening in hall. But now teaching and learning can happen anywhere, anytime, not limit in classroom. Learning in the digital age is not the matters of students who sit in rows, dutifully listening and writing whatever they hear anymore but we need to offer them a unique learning experience. The educational environment is not confined to the classroom anymore, but extends into students’ home and community around the world. Information is not bound primarily in books, but it is available everywhere.

“In the past, we followed the traditional way that teachers talk and students only listen or write everything they hear. But when they applied e-learning, teaching and learning can happen everywhere and every time. We can contact easily and not limit in classroom”.

The study presented a complex relationship between the introduction of technology, changes to lecturer roles, and the teaching-learning environment in general. Some changes are found to be technology driven, and others are indirectly attributed to the presence of computer-related technologies in the respective departments. However, as Lanham (2006) mentioned, these changes in teachers’ role allow more interactive learning then creating

more challenge to teachers – giving students the ability to interrogate or even create knowledge, instead of simply absorbing it as in the traditional way of learning. Lecturers no longer see their primary role as being the ‘king’ or ‘queen’ of the classroom. Instead, they find that they would accomplish more if they adopted the role of educational guides, facilitators and co-learners.

“Instead of write everything in whiteboard, using digital technologies could help lecturers design more activities in class such as quizzes. It made students more interesting, exciting. We also become co-learner by study knowledge together. Our student can build up video clip related to my subjects and they are actually become material sources for me.”

We identified that teachers now play as many roles in class, sometimes they can play as IT consultant, designer of learning content, facilitator of learning, member of a learning team, mentor and co-learner (sharing with students as a fellow learner). But almost of our lectured shared that their role now focuses on guiding and inspiring students. This finding is also suitable with Maldonado’s view (2011) that teacher’s role play as the most important position in managing the students’ activities.

We can see in this digital age, there are a lot of supportive resources on the internet. So teacher changed their ways of teaching students from collaborative perspective, students will learn more deeply if they get and prepare lessons in advance then sharing their knowledge in front of class. Our teachers also discovered that in order to get students to truly take responsibility for their own education, the lessons need to be related to their lives, learning activities should engage their nature curiosity.

“I felt that I can play as an IT expert because I design many multimedia lecturers that illustrate the biological processes. Although it spent lots of time but it inspired me and my students as well as contributing skills for them so much”.

While new roles have emerged, the researchers also realized that different arrays of activity and roles that lecturers perform in each department. The study show that the most important changes in the traditional teachers’ role due to the impacts of the development of technology, the use of technology in teaching and learning. The second reason is the nature of the millennial students entering the university. They have chances to reach information technology when they were young. While these changes are clearly identifiable, they do not fundamentally alter the teacher role, that is, they are just changes the traditional activities, interactions and practices of a higher education teacher (Johnson et al., 2013).

Last but not least, lecturers’ role changing in the way of supporting students.

According to Kreijns (2013), supporting students plays an important role for both students’ academic and social development. Solely improving students’ relationship with their teacher will not produce gains in achievement. However, those students who have close, positive and supportive relationships with their teachers will be satisfied and easy to

attain higher levels of achievement. Take an example of our English teacher's sharing, he can help student proactively study at home then speeding up the pace of teaching in class.

"I design some puzzles on Quizlet to help student learn English vocabulary in advance at home. It's also convenient to use LMS to update students' score, announce, give homework, etc."

In the past, our lecturers need to announce score, give homework for students when they are in class. Now they can support students via LMS. Technology also brings opportunities for students to reach teachers easily, to give feedback and receive responses from teachers more quickly. This result is also in conformity with Crook's view (2010) that teacher's role in the future would be reduced influence but providing greater access to information, leading to increased interest in teaching and practice.

"We have Facebook, Zalo group for students to raise questions and to discuss together."

As mentioned above, results from the interviews analysis indicate that most lecturers see themselves first and foremost as facilitators followed by being coordinators, co-learners, and least as IT specialist. Besides the impact of technology acceptance, teachers' way of using social media to support students at home is suitable for students whom were born during the digital age. (Prensky, 2001). Our teachers need to change to adapt to youngsters of many different background, including those young people who with traditional teaching might have dropped out of the education system. That leads to one problem that our lecturers facing – they must be available to be intervened anytime and any way to make sure learning occurs.

In general, the researchers' interviews findings are consistent with the previous study "where advancement of technology, the use of technology in teaching and learning, and the nature of the millennial students entering the university appears to play a part in lecturers, changing roles" (Odora & Matoti, 2015). Most of our lecturers are encouraged to adapt and adopt new practices. Some of them recognized that their role changing from the matters of knowledge, caring and motivating students. With private university like NTTU, lecturer grasps their most important role is to get to know students' need, learning style, social background as well as ability to self-study.

## **5. Conclusion**

To sum up, the researchers come to conclude that almost lecturers have accessed and used digital technologies such as computers, laptop and mobile phones. However, the main purpose for those using limited in producing learning materials, interacting with students and accessing the knowledge. The results also implied that the influence of technology availability and access on technology acceptance and technology propensity on lecturers' new roles. There was evidence to suggest that use of digital technologies for instruction can result in new roles. It's very necessary and valuable for understanding the effects of digital

technologies on lecturers' changing roles. Understanding the impact of technology-enhanced learning for lecturers in higher education is important if better informed decisions are to be taken about how and why certain technologies can or should be adopted for teaching and learning.

Therefore, this study suggests some findings which need to be considered by higher education authorities and researchers. Higher education institutions need to consider not only the availability and access to various digital technologies, but create environment for technology acceptance among lecturers who are still considered "digital migrants" (Odora, & Matoti, 2015).

❖ **Conflicts of Interest:** Authors have no conflict of interest to declare.

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**SỰ THAY ĐỔI CỦA VAI TRÒ GIẢNG VIÊN TRONG THỜI ĐẠI SỐ  
– MỘT NGHIÊN CỨU TẠI TRƯỜNG ĐẠI HỌC NGUYỄN TẤT THÀNH**

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**TÓM TẮT**

*Cùng với sự phát triển của công nghệ thông tin và truyền thông, sự xuất hiện và thâm nhập của công nghệ số trong toàn bộ hệ thống giáo dục đã tạo ra các thách thức đối với các tổ chức giáo dục đại học trong việc xác định lại vai trò giảng viên. Phương pháp nghiên cứu định tính được tiếp cận nhằm giải thích các quan điểm lý thuyết và trả lời các câu hỏi nghiên cứu. Dữ liệu được thu thập dựa trên các nghiên cứu trước đó và các cuộc phỏng vấn bán cấu trúc với 11 giảng viên tại Trường Đại học Nguyễn Tất Thành. Từ các dữ liệu thu thập được, nhóm nghiên cứu tiến hành giải băng, mã hóa và phân tích, từ đó khám phá vai trò của giảng viên trong thời đại số. Kết quả nghiên cứu cho thấy vai trò giảng viên thay đổi ở 3 nhóm chính: i) vai trò giảng viên thay đổi trong việc chuẩn bị bài giảng; ii) vai trò giảng viên thay đổi trong việc giảng dạy trên lớp; và iii) vai trò giảng viên thay đổi trong việc hỗ trợ sinh viên.*

**Từ khóa:** thời đại số; giáo dục đại học; công nghệ thông tin và truyền thông; vai trò giảng viên