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Journal for Educators, Teachers and Trainers, Vol. 12 (4)

<https://jett.labosfor.com/>

Date of reception: 18 Apr 2021

Date of revision: 17 Aug 2021

Date of acceptance: 16 Oct 2021

Tu Thi Nguyen, Hung Van Bui, Nhu-Thuyen Dang-Thi, Thien-Thu Truong-Thi, Vinh-Long Tran-Chi (2021). Pedagogy undergraduates' perception on twenty-first century skills. *Journal for Educators, Teachers and Trainers*, Vol. 12(4). 90 – 94.

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ABSTRACT

Teachers head up their students to the bright future, their role is indispensable, especially in the 21st century, which expects them to be energetic and flexible to apply knowledge to the daily life and carrier task. Examining the perception on 21st century skills teaching of pedagogy teacher-to-be undergraduates - plays a vital role in identifying deficits in teachers' professional development; as well as organizing training programs to enhance their knowledge and skills. To the best of our knowledge, no study to date has examined pedagogy undergraduates' perception in Vietnam. This study aimed at examining Vietnamese undergraduates' perception on teaching the 21st century skills. Our cross-sectional study used the 21st Century Skills Teaching Scale. Descriptive analysis and ANOVA were performed in this research. The results showed that: (1) Vietnamese pedagogy students had a high level of perception on teaching the 21st century skills; (2) there was no gender difference in their perception; and (3) there was no significant difference in their perception regard to their school years and (4) there was significant difference between those having joined soft skill courses at their university and those having not joined anyone.

Keyword: 21st century skills, soft skills, Vietnamese, pedagogy undergraduates

INTRODUCTION

The twenty-first century expects students to be energetic and flexible enough to properly apply what they've learnt to their daily life as well as their career. Up to now, there has been many definitions of 21st century skills (Binkley et al., 2012; Jia, Oh, Sibuma, LaBanca, & Lorentson, 2016), however, the common points in those concepts are skills necessary for learners to adapt to the realities and circumstances of the twenty-first century, which are distinct from those of the previous century with regard to their great emphasis on technology, digital labor, and more broadly, on the meaning and application of knowledge (Anagün, 2018). This process requires the students to acquire and master skills including problem solving, critical thinking, the capacity to utilize digital technologies, collaboration, evaluation, decision making. The indispensable missions of teachers in the line with that trend is to prepare their students to be able to handle sophisticated issues related to modern competitive and technology-intensive world (Anagün, 2018).

Teachers are those who head up their students towards a bright future. Therefore, they need to understand well what the future holds. When having eligible perception on 21st skills, teachers tend to offer their students more exploratory and investigative learning environments, which are favorable to their positive attitudes (Anagün, 2018). Examining their perception on 21st century skills teaching plays a vital role in identifying particular areas where teachers' professional development deficits; as well as deciding when additional training is needed in order to enhance their ability in teaching those skills (Jia et al., 2016). To put it another way, perception of pedagogy students, who will soon become teachers in the future, on teaching the 21st century skills also need examining. While there has been a wide range of studies that considered teachers' perception on teaching the 21st century skills (Anagün, 2018; Sang, Liang, Chai, Dong, & Tsai, 2018), no study to date has examined pedagogy undergraduates' perception. To bridge this gap, we therefore conducted a research on Vietnamese pedagogy students. The main objective of this paper is to explore Vietnamese pedagogy undergraduates' perception on teaching the 21st century skills.

The teachers' age have a great effect on their perception on teaching 21st century skills (Lin, Tsai, Chai, & Lee, 2013; O'bannon & Thomas, 2014; Sang, Liang, Chai, Dong, & Tsai, 2018). Lin, Tsai, Chai, and Lee (2013) conducted a study in Singapore to examine Singaporean teachers' perception on teaching the 21st century skills and concluded that their age have a negative impact on their perception. However, the same study concept took place in China by Sang et al. (2018), the teachers' age have positive effect on their perception on teaching the 21st

century skills. In the line of that comparison, this current study was conducted to verify how the age of pedagogy students affects their teaching the 21st century skills perception. Besides, we also hypothesized that students who took part in a large number of social skills classes as teaching assistants or coaches tend to have a better understanding of the 21st century skills.

METHODS

Hypothesis

Ho₁ (main effect): There is no significant difference in perception on the 21st century skills teaching between males and females.

Ho₂ (interaction effect): There is no significant difference in perception on the 21st century skills teaching between undergraduates completing social skills courses at university and those who have not taken these courses.

Participants

This study employed a quantitative research approach. Convenience sampling method was utilized to collect the study's participants. Survey process took place from January 9th, 2020 to March 26th, 2020 in Ho Chi Minh city University of Education (HCMUE), Vietnam. The questionnaires were delivered to 500 pedagogy undergraduates of HCMUE, of which 476 questionnaires returned, resulting in a 95.2% response rate and surpassing the 30% response rate required by most academics for analysis (Dillman et al., 2000). The total participants include females which accounted for 72.9% (n = 347) and males which accounted for 27.1% (n = 129). Among the participants, 39.3% was freshman (n = 187), 23.3% was sophomore (n = 111), 22.9% was junior (n = 109), and 14.5% was senior (n = 69), as show in Table 1.

Table 1: Descriptive statistics of the respondent's

| Socio-demographic variable | Category | n | % |
|----------------------------|-----------|------|------|
| Gender | Male | 129 | 48.1 |
| | Female | 347 | 51.9 |
| School year | Freshman | 479 | 19.9 |
| | Sophomore | 1217 | 50.5 |
| | Junior | 561 | 23.3 |
| | Senior | 152 | 6.3 |

Measurement

Participants were requested to complete the Vietnamese versions of the 16-item 21st Century Skills Teaching Scale based on the original one of Jia et al. (2016). 16 items of the 21st Century Skills Teaching Scale includes six aspects: Information literacy; Collaboration; Communication; Innovation and Creativity; Problem solving; and Responsible citizenship. Two bilingual researchers translated the questionnaire's items into Vietnamese. For one of them, his mother-tongue was Vietnamese; for the other, her native language was English. The processes of forward and backward translation were carried out in compliance with the guidelines. All students were asked to carefully read each item of the questionnaire and choose the choices in which they truly believed. The internal consistency for testing reliability of the 21st Century Skills Teaching Scale by Cronbach's Alpha coefficient was checked (Cronbach's Alpha = 0.954). That result indicates that the internal consistency of Vietnamese version of The 21st Century Skills Teaching Scale are high, and this version of the questionnaire can be surveyed on the participants (Bowling, 2014). The following method was used to code the data: 1 = Totally disagree, 2 = disagree, 3 = Neutral, 4 = Agree, 5 = Totally agree. The higher the mean scores for perception are, the higher levels of perception on teaching the 21st century skills the participants have. To convert discrete data to rankings, the distance value was computed as: (Maximum – Minimum)/n = (5-1)/5 = 0.80 (Malhotra & Birks, 2007). Hence, the rankings were determined to have the following meanings: very low (1.00 – 1.80), low (1.81 – 2.60), medium (2.61 – 3.40), high (3.41 – 4.21), and very high (4.22 – 5.00).

Procedure

Participants were willing to participate in the survey and then signed on the written consent forms which claims their rights in participating in this study. Firstly, the participants need to fill in the General Information forms, which includes their gender and their academic years. After that, the instructions were delivered to participants so that they well understood the questionnaire and knew how to rate. The undergraduates were informed about the privacy of their answers, and there was neither right nor wrong answer. All they had to do was to answer based on their own experience and perspective.

RESULT

A descriptive analysis was performed to evaluate the mean scores of perceptions on teaching the 21st century skills among this study's participants. The result pointed out that Vietnamese pedagogy students have the high level of perception on the 21st century skills teaching (M = 3.95, SD = 0.76).

A two-way analysis of variance (ANOVA) was conducted with three independent variables (gender; the academic years of students participating in; and the social skills courses they took at university) and the dependent variable - perception on the 21st century skills teaching. To perform a two-way ANOVA, the researchers made a preliminary assumption about the normality of residuals, absence of multicollinearity and homogeneity of variances for each combination of the groups of the three independent variables, as show in Table 2. Levene's Test of Equality of Error Variances tests the assumption ANOVA that the variances of each variable are equal across the groups. If Levene's test is significant, the assumption is violated. The value of Levene's test in our study for the 21st century skills teaching scale was non-significant [F (15, 460) = 1.045, p = 0.407]. Therefore, our research met the assumption that each variable's variance is equal across groups.

Table 2: ANOVA Summary Table for the 21st Century skills teaching

| Source | df | MS | F | p | Partial η^2 |
|--------------------------------------|-----|-------|-------|-------|------------------|
| Corrected Model | 15 | 0.755 | 1.333 | 0.178 | 0.042 |
| Gender | 1 | 0.215 | 0.380 | 0.538 | 0.001 |
| Schoolyear | 3 | 1.067 | 1.884 | 0.131 | 0.012 |
| Soft skill courses | 1 | 2.976 | 5.255 | 0.022 | 0.011 |
| Gender*School year | 3 | 0.247 | 0.436 | 0.727 | 0.003 |
| Gender*Soft skill courses | 1 | 1.057 | 1.867 | 0.172 | 0.004 |
| Schoolyear*Soft skill courses | 3 | 1.258 | 2.222 | 0.085 | 0.014 |
| Gender*Schoolyear*Soft skill courses | 3 | 0.310 | 0.547 | 0.650 | 0.004 |
| Total | 476 | | | | |
| Corrected Total | 475 | | | | |

Note: MS = Mean Squares, df = degrees of freedom, Partial η^2 = Effect Size

The main effect of gender was not significant, $F(1, 460) = 0.380, p = 0.538, \eta^2 = 0.001$. Male participants ($M = 3.88, SD = 0.74$) and female ones ($M = 3.98, SD = 0.76$) did not differ on the reported perception on the 21st century skills teaching.

The study reported no significant difference in the level of perception on the 21st century skills teaching among Freshman ($M = 4.03, SD = 0.72$), Sophomore ($M = 3.91, SD = 0.81$), Junior ($M = 3.84, SD = 0.80$) and Senior ($M = 3.98, SD = 0.66$). A main effect of the participants' school year was not significant, $F(3, 460) = 1.844, p = 0.131, \eta^2 = 0.012$.

A main effect of the soft skill courses the participants took at their university was found, $F(1, 460) = 5.255, p = 0.022, \eta^2 = 0.011$. Participants who took part in soft skill courses at their university reported significantly higher level of perception on teaching the 21st century skills ($M = 4.03, SD = 0.73$) than those who have not taken any soft skill courses at their university ($M = 3.93, SD = 0.7$).

DISCUSSION

The overall goal of this thesis was to explore Vietnamese pedagogy undergraduates' perception on teaching the 21st century skills. Furthermore, this study also aimed at (1) comparing the perception on the 21st century skills teaching between genders; (2) examine the difference in their perception about their school years and (3) verifying the difference in their perception between students who took soft skill courses at university and those whose have not taken any soft skill courses. Our study reports some main findings: (1) Vietnamese pedagogy students had a high level of perception on teaching the 21st century skills; (2) there was no significant gender difference in their perception; (3) no difference in perception on teaching the 21st century skills was significantly recorded among students in different school years and (4) there was a significant difference in the level of perception between the undergraduates having taken part in soft skill courses and those not having taken any soft skill courses.

This study found no significant difference in perception on teaching the 21st century skills among the Freshman, Sophomore, Junior and Senior. When comparing our results to those of previous studies (Lin et al., 2013; O'bannon & Thomas, 2014; Sang et al., 2018), it must be pointed out that our finding is opposite to those previous ones which claimed that the teachers' age have correlation to their perception. Whereas, the age of Vietnamese students did not play a role in their perception the 21st century skills teaching. This could also be explained that the participants of our study, no matter how old they are, had neither engaged in their practicum nor exposed to the real working environment as well as teaching programs and all the knowledge they got is from the same programs.

Another result of this study is the finding of significant difference in the level of perception between the undergraduates having taken part in soft skill courses and those not having taken any soft skill courses. When undergraduates exposed themselves to the knowledge of soft skills - one facet of the 21st century skills - they might find it indispensable for their future students to acquire those skills, which contributes to the higher level of perception in those having taken part in those courses.

Regarding the limitations of our study, it could be due to the unequal proportion between male and female which could lead to the unreliable results. It also suffers from other limitations associated with a smaller proportion of the Senior in comparison with the Freshman, Sophomore and Junior. The survey procedure took place at the university campus, simultaneously in the time of the Senior's practicum. That is the reason why few of them joined the survey. Future work should carefully consider the timing of survey to remove this limitation from the research.

CONCLUSION

This study was conducted to examine the perception on teaching the 21st century skills among Vietnamese pedagogy undergraduates. Our research utilized the 21st Century Skills Teaching Scale to evaluate their perception. We found that the participants had a high level of perception on the 21st century skills teaching; besides, we found no significant difference in their perception among both genders and school years; and there was a significant difference between the perception of undergraduates having taken part in soft skill courses and of those not having taken any soft skill courses. Further contribution should seriously take timing of surveying into consideration to avoid the limitation as our study.

Acknowledgement

The authors acknowledge to the principles, lecturers at the Ho Chi Minh City University of Education for having supported us in gathering the field data for this study.

Funding

This research received no external funding.

Conflicts of interest

There are no conflicts of interest.

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