What Are the Views of Classroom Teachers on Their Levels of Using 21st Century Learner and Teacher Skills?

Ertuğ Kıyasoğlu   **Şule Çeviker Ay**

Introduction

Changes in information and communication technologies and globalization increase international competition, and training manpower equipped with knowledge and skills required by the century is of special importance. For sustainable development and competitive advantage, it is important to train generations such knowledge and skills. Teachers are expected to guide students while acquiring these skills (Palfrey and Gasser, 2008). Given the role of teachers in developing skills and behaviors of generations, one can argue that training teachers who are learners and teachers of the century will facilitate achieving the goals. Research on competitive manpower of the new century lists the features looked for in qualified manpower. Teacher skills of the new millennium (OECD) or century are classified in AASL (2007), Wagner (2008), Trilling and Fadel (2009), Kylonen (2012), Partnership for 21st Century Learning (2015), and there are great similarities between the classifications along with differences. Classifications involve several skills of learning and innovation and skills about life and career, on one hand, literacies that provide an advantage in the digital age on the other hand. Teachers' proximity to these skills is an advantage for the new generation. Hence, this research aimed to examine classroom teachers' views on their levels of using 21st-century learner and teacher skills, whether their views differed by gender, source of pedagogic formation, educational level, age, occupational seniority, and whether there was a relationship between their views on levels of using 21st-century learner and teacher skills. It is expected that results will allow for exploring classroom teachers' views regarding 21st-century learner and teacher skills and realizing teachers' suitability for requirements of the era, providing hints about precautions that can be accordingly taken, understanding what to consider in selecting or training teachers and offering solutions.

Method

This research utilized the descriptive model. Classroom teachers' 21st-century learner and teacher skills were examined with the single survey model, the correlational survey investigated relationships between learner and teacher skills, and causality between independent variables and learner and teacher skills was examined with the causal comparison. The research did not utilize any sample. 470 classroom teachers in a district center of a major city were reached. 68% of the classroom teachers are female, 92.3% have bachelor's or associate's degrees, 60.5% are aged between 26-35, 55.5% have occupational seniority of 1-10 years, and 73% graduated from a faculty of education. Participants were asked to complete the demographic information form and scales of 21st-century learner skills and 21st-century teacher skills developed by Orhan Göksün and Kurt (2016). Subscales of the 31-item 21st-century learner skills scale include cognitive skills, autonomous skills, collaboration, and flexibility skills, and innovativeness skills. Subscales of the 27-item 21st-century teacher skills scale are administrative skills, techno-pedagogical skills, affirmative skills, flexible

teaching skills, and generative skills. There are no negative items in the Likert scales. Higher scores from subscales or scales mean that 21st-century learner-teacher skills are used frequently. The validity and reliability of the scales were proven with statistical evidence. 450 of the scale forms distributed to the classroom teachers during the fall term of 2019 could be collected, and 415 were found to be useable and analyzed. Data of normal distribution were subjected to independent samples t-test, one-way variance analysis (ANOVA), and Pearson's correlation method of parametric tests.

Findings

Classroom teachers had a mean score of 4.04 (usually) in using 21st-century learner skills; they had mean scores of 4.59 (always) in cognitive skills and 3.80 in autonomous skills, 3.64 in collaboration, and flexibility skills and 3.97 in innovativeness skills (usually). Accordingly, classroom teachers used their learner skills on the level of "usually" while they made the best use of cognitive levels and the poorest use of collaboration and flexibility skills.

Independent samples t-test concluded that there was no significant difference between levels of using 21st-century learner skills and all its subscales by gender [t=1.605, p>.05; t=409, p>.05; t=-609, p>.05; t=-1.828, p>.05; t=-1.252, p>.05]. In other words, male and female teachers had similar views on their levels of using the 21st-century learner skills. The same applies to total test and subscales respectively by whether classroom teachers graduated from a faculty of education [t=-1.582, p>.05; t=-1.991, p>.05; t=-1.358, p>.05; t=-1.242, p>.05; t=-331, p>.05]. Having graduated from a faculty of education did not cause any difference between 21st-century learner skills. There was also no significant difference in learner skills and its subscales between having a bachelor's or associate's degree and a postgraduate degree [t=-1.100, p>.05; t=-1.270, p>.05; t=-541, p>.05; t=-383, p>.05; t=-352, p>.05]. One-way variance analysis (ANOVA) concluded that age was not a variable that caused a significant difference in 21st century learner skills [F=1.087, p>.05; F=1.134, p>.05; F=919, p>.05; F=1.041, p>.05; F=436, p>.05]. It was also found in ANOVA that occupational seniority did not cause any significant difference in classroom teachers' 21st-century learner skills [F=1.880, p>.05; F=1.095, p>.05; F=1.153, p>.05; F=1.445, p>.05; F=1.564, p>.05].

Classroom teachers had a mean score of 4.08 (usually) regarding their levels of using the 21st-century teacher skills; they had mean scores of 4.50 (always) in administrative skills, 3.93 (usually) in techno-pedagogical skills, 4.64 (always) in affirmative skills, 3.56 (usually) in flexible teaching skills, and 4.08 (usually) in generative skills. Accordingly, classroom teachers made the best use of affirmative skills and the poorest use of flexible teaching skills.

It was seen in the independent samples t-test that there was no significant difference between the 21st-century teacher skills total test and their views on levels of using techno-pedagogical skills and flexible teaching skills by gender; and there was a difference in administrative skills, affirmative skills and generative skills in favor of women [t=-0.832, p>.05; t=-2.817, p<.05; t=-.497, p>.05; t=3.190, p<.05; t=-1.252, p>.05; t=2.817, p<.05]. Accordingly, female classroom teachers evaluated their levels of using administrative and affirmative skills as being higher. No significant difference was found in total test and subscales respectively by whether classroom teachers graduated from a faculty of education [t=-1.,764, p>.05; t=-1.049, p>.05; t=1.098, p>.05; t=1.125, p>.05; t=.019, p>.05; t=-1.858, p>.05]. While there was no significant difference in teacher skills and its subscales between having a bachelor's or associate's degree and a postgraduate degree, a significant difference was found only in flexible teaching skills in favor of those with a postgraduate degree [t=-1.100, p>.05; t=-1.270, p>.05; t=-541, p>.05; t=-383, p>.05; t=-352, p>.05].According to one-way variance analysis (ANOVA), age did not cause any significant difference in the views on levels of using the 21st-century teacher skills [F=1.546, p>.05; F=2.027, p>.05; F=.559, p>.05; F=1.396, p>.05; F=1.389, p>.05; F=1.483, p>.05]. It was also found in ANOVA that occupational seniority did not cause any significant difference in classroom teachers' views on their levels of using the 21st-century teacher skills [F=2.105, p>.05; F=2,.130, p>.05; F=1.876, p>.05; F=2.099, p>.05; F=2.124, p>.05; F=1.112, p>.05].

A moderate positive significant correlation was found between the views on levels of using the 21st-century learner and teacher skills (p<0.05; r=0.674). As classroom teachers' levels of using 21st-century learner skills increased, their levels of using teacher skills also increased. One can accordingly

argue that teachers' idea that they are good learners supports their idea that they are good teachers. A similar relationship is valid for the subscales of teacher and learner skills.

Discussion, Conclusion, and Recommendations

As concluded in the research, the classroom teachers thought that they usually used 21st-century learner skills. As for the subscales, they always used "cognitive skills" while using other skills usually. Despite using "collaboration and flexibility skills" usually, the classroom teachers evaluated themselves to be least competent in these skills. The classroom teachers evaluated themselves to be using 21st-century teacher skills usually. As for the subscales, they thought that they always used "affirmative" and "administrative skills" and usually used "techno-pedagogical", "generative" and flexible teaching" skills. While "flexible teaching" skills were the skills the teachers thought they usually used, they reported that they use them the least. Results on such high level of perceived competence coincide with the results regarding the perceived levels of using the 21st-century skills in the literature (Keskin and Yazar, 2015; Orhan Göksun and Kurt, 2017; Özdemir Özden, Karakuş Tayşi, Kılıç Şahin, Demir Kaya and Bayram Şahin, 2018; Altunova and Kozikoğlu, 2018; Kan and Murat, 2018; Cemaloğlu et al., 2019; Çelebi and Sevinç, 2019). However, these results were achieved through teachers' self-assessments based on their perceptions; hence, there might be a difference between self-assessment and skills observed in practice.

Gender caused a significant difference only in administrative and affirmative skills of 21st-century learner skills in favor of women and having a postgraduate degree caused a significant difference only in the flexible teaching skills of 21st-century teacher skills while other variables had no impact. There are studies in favor of and against these results.

It was found that as the views on levels of using the 21st-century learner skills were more positive, the views on levels of using the teacher skills also became more positive, that this positive correlation was moderate, and that there were weak and moderate positive significant correlations between the subscales of the two scales at varying degrees. The studies in the literature (Orhan Göksun and Kurt, 2016; Burns and Sinfield, 2004; Minton, 2005; Tennant, McMullen and Kaczynski, 2009 as cited in Çelebi and Sevinç, 2019; Çelebi and Sevinç, 2019) support this result.

Research on teachers' 21st-century skills can be diversified and increased in number; their skills can be examined, and 21st-century skills can be included among the criteria in teacher training programs and teacher recruitment.