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Assessing prospective teachers' soft skills curriculum implementation: Effects on teaching practicum success

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Soft skills encompassing conscientiousness, lifelong learning, communication, creativity, and teamwork are beneficial to success in work and life. The education policy in Nigeria on teacher education stipulates that students should learn basic soft skills at universities as performance improvement tools for teaching, but for the most part teacher education programmes do not include such skills. The aim of the study reported on here was to assess whether the soft skills curriculum and instruction course has been effectively implemented in university teacher education programmes. This course is theory based designed to inculcate soft skills in would-be teachers within 2 semesters. We used paper questionnaires and performed data analysis by way of partial least square structural equation modelling (PLS-SEM) using SmartPLS software in a non-experimental procedure with a total of 722 prospective teachers. The analysis revealed that prospective teachers gained moderate soft skills, which, in turn, benefited them in classroom control and, ultimately, teaching success in terms of lesson planning, development, and results. It is fair to suggest that the PLS-SEM model shows that participation in the curriculum and instruction course generates different kinds of benefits to teachers at the same time.

Keywords: Nigeria; PLS-SEM; prospective teachers; smartPLS; soft skills; teacher education; teaching practicum

Introduction

Higher education in Nigeria is known for producing a reasonable number of graduates every year. Many graduates from Nigeria's higher institutions continue to play a significant role in the economic and socio-cultural development of the country. Therefore, developing an excellent workforce is imperative. To achieve this objective, the government make policies with the deliberate intention of making higher institutions to be competitive. Moreover, research shows that teacher education is linked to national development (Ahmad, 2012). The development of quality teachers thus becomes a priority.

The teacher education curriculum in Nigeria specifies that most prospective teachers are offered the curriculum and instruction course for two semesters irrespective of their subject area and methodology aspects. The objectives of the course are based on the general objectives of university teacher education that are in turn derived from national education policy. In specific terms, the course was designed to ensure that holders of bachelor's degrees in education acquire the necessary soft skills to become more conscious of their behaviour, flexible to change, resilient, make value-based judgments, communicate effectively, and collaborate efficiently to enable them to teach content successfully and for their future life (Federal Republic of Nigeria [FRN], 2013).

The notion of soft skill related to job performance was raised in the Nigerian national education policy to determine the skills that teacher education graduates need to feel sufficiently equipped for their work as teachers, succeed in their respective classrooms and to help them understand how curriculum and instruction courses must change, and to inculcate those skills among students. More recent evidence (Moses, Admiraal, Berry & Saab, 2019) on undergraduate pre-service teachers shows that their level of preparation significantly predicts their teaching success and their decision to enter the profession.

The influence of soft skills on job performance has been studied in different sectors of the economy, (Kechagias, 2011; Klaus, 2010; Robles, 2012). Klaus (2010) found that soft skills are responsible for 75% of successes in job performance while hard skills account for 25%. In another study, Watts and Watts (2008), found that soft skills contributed to 85% of one's job performance success while technical skills contributed 15%. Wilhelm (2004) posits that employers rated soft skills as most important for entry-level success on the job. Although some work on the potential of soft skills has been carried out, experts still argue that soft skills are the major challenge for new graduate entrants in the workplace (Feys, Anseel & Wille, 2011; Gibb, 2014; Taylor, 2016).

While a few studies on soft skills were conducted in developed countries (Kechagias, 2011), relatively little attention has been paid to the soft skill of teachers (Aworanti, Taiwo & Iluobe, 2015) and its benefit to teaching performance success in developing countries like Nigeria (Lamb, Maire & Doecke, 2017). For instance, Aworanti et al. (2015) depicts so much on the validation of soft skills instruments using in-service teachers, but did not focus on the soft skills gained. Their study might have been more convincing if they had determined the effect of soft skills gained on teacher's class control and teaching success. Moreover, a deeper understanding of the effects of soft skills entities on soft skills developed is missing in the study area. In this

study we attempt to bridge these research gaps and to do so with students (pre-service teachers) in federal universities in north-central Nigeria that had taken the curriculum and instruction course units.

Because the curriculum instruction course was constructed to explicitly focus on supporting students through soft skills development for successful professional careers, it is necessary to identify their level of soft skills gained, the sub-skills that were most closely linked to their level of soft skills gained, and the effects of the soft skills gained on class control and ultimately on teaching practicum success. Thus, to begin our investigation, we had an exploratory research question: What is the degree of the soft skills developed by pre-service teacher participants in the course?

Literature Review

Soft skills training

Kechagias (2011) defines soft skills as intra- and interpersonal skills that are essential for personal development, social participation, and workplace success. In the *Oxford Dictionary* (Hornby, 2015) soft skills are described as personal attributes that enable someone to interact effectively and harmoniously with other people. Mahasneh (2016) defines soft skills as the needs, abilities, and traits that are often used to describe non-technical skills. Definitions of soft skills may differ, but Gibb (2014) posits that soft skills share a common purpose i.e. to improve personal development, participation in learning, and success in job performance.

In teacher education, hard skills refer to the professional (content knowledge) and pedagogy competencies, while soft skills are the social competence and personality e.g. upholding ethics, effective communication, critical thinking, conscientiousness skills, teamwork, and problem-solving skills (FRN, 2013; Hendriana, 2017). Graduates who are trained to work with students in the classroom interact with school management and parents and hence require a strong background in soft skills. According to Kechagias (2011), soft skills for teachers include adaptability, ability to help others, conscientiousness, teamwork, verbal communication, professionalism, lifelong learning skills, and creativity.

In their article on teacher soft skills, States, Detrich and Kevworth (2018) state that it is hard to incorporate soft skills in teaching. Teacher educators need to serve as role models to help students develop their own soft skills when they observe them. This will help them teach successfully, thus contributing significantly to economic development.

For teachers to serve as advisors and guides to students, they too require soft skills. For example, if the teacher has been involved in lifelong learning or is well educated, such a teacher will advise students on the need to persevere because in this way, they can overcome difficulty. Teachers should always be approachable to students, especially when the students encounter problems. It is very important for teachers to have soft skills because these skills will help them to be sensible to the needs of students. Research shows that a teacher's personality has a positive effect on their students' performance. Hattie (2015) conducted a meta-analysis that showed that a teachers' personality has a higher effect size (0.16) on students' achievement than subject matter knowledge (0.09). Cheng and Zamarro (2016) empirically show that teachers with more soft skills contribute more to the development of their students' soft skills.

Teaching itself is all about communication. Once there is an absence of, limit to or a gap in communication, the essence of such activity cannot be realised. Klaus (2010) explains that success is based not only on what one knows, but also on how one can communicate the knowledge. A teacher uses the knowledge of effective verbal, nonverbal, and media communication to deliver content. The effective use of communication skills can enhance the learning process as communication plays a vital role in helping students meet higher standards and perform at increased levels of competence. (George, 2000). According to the U. S. Department of Education (2002, cited in Darling-Hammond, 2006:28) "rigorous researches indicate that verbal ability and content knowledge are the most important attributes of highly qualified teachers." It can be said that the importance of good communication is two-fold. Firstly, it helps the teacher to successfully deliver a lesson to students and secondly, it enables the teacher to relay feedback to help students make progress.

Teamwork is important. If technical skills earn a job, soft skills facilitate success on the job, thereby creating more opportunities. For example, teamwork ability ensures that the teacher, the students, school management, and parents work together towards clear goals and desired educational outcomes. Tamkin, Pearson, Hirsh and Constable (2010) say that the reason why soft skills are so important is that they foster organisational effectiveness, functionality, and success. When teachers have the capacity to work together with colleagues and students or organise students into groups, they can have sufficient impact on the effective and efficient attainment of schools' objectives. Eells (2011) conducted a meta-analysis of the relationship between collective teacher efficacy and students' achievement and found that teamwork had a medium effect size on student's achievement. Effect sizes allow us to evaluate the incremental explanation of the independent variables of the dependent variables. As a rule of thumb, effect size (f^2) values = 0.02, indicate small

effect, = 0.15 indicate medium effect, while = 0.35 indicate large effects (Hair, Sarstedt, Ringle & Gudergan, 2018).

In the current learning environment where emphasis is on collaborative learning, working as a group to innovate or resolve challenges is pivotal. Teamwork in an educational setting involves individuals sharing expertise to reach a goal. Research shows that working in a team positively impacts job performance (Osei Boakye, 2015). According to Good and Lavigne (2017), for students to achieve a comprehensive, well rounded education, it is vital to integrate teamwork on several fronts.

Creativity in teaching is a key soft skill for educators. Creativity involves being imaginative, thinking outside the box and coming up with original ideas. Melser (2019) explains that creative teachers can make lessons exciting, teach in new and imaginative ways and inspire children to reach their dreams. Hence, building this skill and applying it in life makes it easier for teachers to succeed in teaching. The objective of teacher education is to ensure that prospective teachers can think critically, are creative, innovative, and analytical to enable them to apply knowledge (FRN, 2013). Teachers must possess the ability to identify and analyse complex situations as well as to make evaluations that are justifiable because classrooms are complex (Darling-Hammond, 2017).

Conscientiousness is a key soft skill, which requires of one not to be inauthentic, distant, or detached. Conscientiousness is simply the ability to conduct oneself with responsibility, integrity, accountability, and excellence. Moses et al. (2019) explain that conscientiousness requires a commitment to something external to the self. In teaching, commitment is typically associated with how the teacher is committed to activities in the school, students, or the subject taught. Hence acts of conscientiousness involves what may seem to be small acts, such as always reporting to work on time and returning promptly from breaks, dressing appropriately, being clean and neat, speaking clearly and politely to colleagues, customers, and clients as well as striving to meet high standards for one's own work. However, a survey of 400 leading American corporate managers in 2007 indicated that 70% of high school graduates lacked conscientiousness and work ethic skills (Bronson, 2007). It is possible that the situation is the same in the present study area.

Research shows that conscientiousness has consistent association with performance in education (Farrington, Roderick, Allensworth, Nagaoka, Keyes, Johnson & Beechum 2012; Richardson & Abraham, 2009; Tackman, Srivastava, Pfeifer & Dapretto, 2017). It shows that the effect of conscientiousness to academic achievement is often very high. Conscientiousness is also always highly correlated with work performance – even more so than the other soft skills dimensions put together (Barrick, Mount & Judge, 2001; Pellegrino & Hilton, 2012). However, Dudley, Orvis, Lebiecki and Cortina's (2006) meta-analysis does not appear to support their findings. According to their findings, conscientiousness only has a moderate effect on task performance.

It is important that teacher education graduates must be ready to enter the school (workplace) equipped with soft skills that enable them to apply their hard skills directly on the job. Experts assert that in terms of success in the workplace, soft skills contribution is almost 85% while technical skills contribution is only 15% (Watts & Watts, 2008). Hence, employers often argue that the lack of soft skills competence by new graduates affects work performance, work output, and their efficiency.

Like other sectors of the economy, educational institutions are constantly reviewing their teacher training curriculum to combat the challenges. For example, new teaching approaches are replacing the traditional methods. Luther (2000), an authority on teacher education, says that education is in a state of transition as new methods of teaching are replacing the old methods.

He further highlights that limited soft skills among graduates at entry-level position are the most serious threat to the education sector. This could affect output, increase cost, and lead to drop out among students, thereby putting the security of a nation at risk. For these reasons, the soft skills possessed by undergraduate final year teacher education students need to be assessed with a view to ascertain how this match their teaching performance perception during teaching practice.

Teaching practicum

Teaching practicum is an exercise undertaken by pre-service teachers to enable them to have the full experience of being a teacher in a classroom and to have a sense of teaching activities. It is an important part of pre-service teachers' learning and a time in which they can demonstrate what they have learnt. Pre-service teachers' performance during the practicum is gauged by using a teaching practice assessment form to determine how well the teacher education programme prepares them to be proficient in the classroom. In this sense, teaching practicum refers to all field experiences that precede professional education coursework of the teacher education programme.

Teacher educators have expressed concerns about the inability of students to clearly demonstrate teaching competences during teaching practicum (Adeosun, 2012). This reflects the fact that either the students were not exposed to the

right soft skills or that the curriculum itself is defective. This situation has a very important implication because the depth of teachers' soft skills contributes to their effectiveness in a multidimensional classroom environment.

Research in this area (Adeosun, 2012; Darling-Hammond 2000; Ijioma, Afurobi, Izuagba & Ifegbo, 2014; Obanya, 2007) indicates that a multidimensionality exists in classroom setting that requires the adequacy of soft skills. Doyle (2000, cited in Good & Lavigne, 2017) states that a single event in a classroom setting can have many consequences. For example, waiting for a few minutes to answer a question may increase a student's motivation but could negatively influence the interest of other students who would like to respond.

Also, many things happen at the same time in a classroom during a discussion. A teacher does not only listen and respond to students' ideas but also monitors unresponsive students to keep lessons progressing at a good pace. All of these and many others call for the adequacy of soft skills. No amount of content knowledge could be effective without soft skills.

Schoeman and Mabunda (2012) explain that pre-service teachers reason in two ways during teaching practicum, viz. instructional reasoning and practical reasoning. For the former, their reasoning is based on propositional knowledge and teaching methods while for the latter, their reasoning is purely related to teaching in the classroom which is based on imagination of possible action. Teaching practicum is important to prospective teachers because it allows them to earn real hands-on experience which gives them the leverage to act effectively in their future teaching.

Teaching is a complex task, as it demands adequate preparation. Therefore, prospective teachers need to typically learn a great deal of skills about how to get along in a classroom – for prospective teachers the development of soft skills is not just desirable but imperative.

Conceptual Framework

This study was based on the social learning theory (Bandura, 1986) that is related to behavioural change. The theory is based on the idea that people learn from interaction with experienced others in a social context such as a school (Rao, 2018). The theory also suggests that course content, and its implementation play a vital role in enhancing students' skills that serves as guides for actions in job performance.

Soft skills is the sense of having commitment, collaboration, adaptability, innovation and communication skills to personally engage in teaching (Aworanti et al., 2015; Tang, 2020); it provides teachers with the confidence to engage in the teaching tasks (Taylor, 2016). The Nigeria national education policy on teacher education has proposed ways to implement soft skills in the curriculum for teacher education. At university level, these skills are imbedded in the curriculum and instruction course units to be implemented in teacher-education along with pedagogic content knowledge. Unfortunately, Adeosun (2012), explains that in Nigeria the focus on teacher-education has always been more on the pedagogical content knowledge, relegating soft skills to the background, thereby reducing emphasis on soft skills.

Andrews and Higson (2008) argue that there is a wide gap between soft skills and the capabilities of graduates with respect to the demands of the work environment. In addition, school administrators have expressed dissatisfaction with the soft skills of newly recruited graduates. Ijioma et al. (2014) attribute the low achievement rates of students to the inadequacy of their teachers' soft skills. An indication of the soft skills gap was also revealed in a 2012 survey conducted in North Carolina. The results of the survey reveal that 58.9% of the respondents indicated that communication and interpersonal skills were shortcomings in job performance, 46.8% emphasised critical thinking, and 45.4% emphasised teamwork (North Carolina Business Services Representatives, 2012).

The model used in this study was based on Kirkpatricks' evaluation model. According to Kirkpatrick, individuals are likely to gain skills (learning) that further result in behaviour change. Thus, forming results from a training program, the theory shows that reaction plays a motivational role in promoting job performance (Kirkpatrick, 1994, cited in Steensma & Groeneveld, 2010). Using Kirkpatrick's theory, our soft skills model illustrated in Figure 1 also partly bears resemblance to the model proposed by Manninen and Meriläinen (2015). The study proposed that the offering of soft skills in the course for pre-service teachers can enable them to gain substantial soft skills which will allow them to control over their own classes and also lead to success in teaching practicum (Gibb, 2014; Lamb et al., 2017; Manninen & Meriläinen, 2015; Tang, 2020).

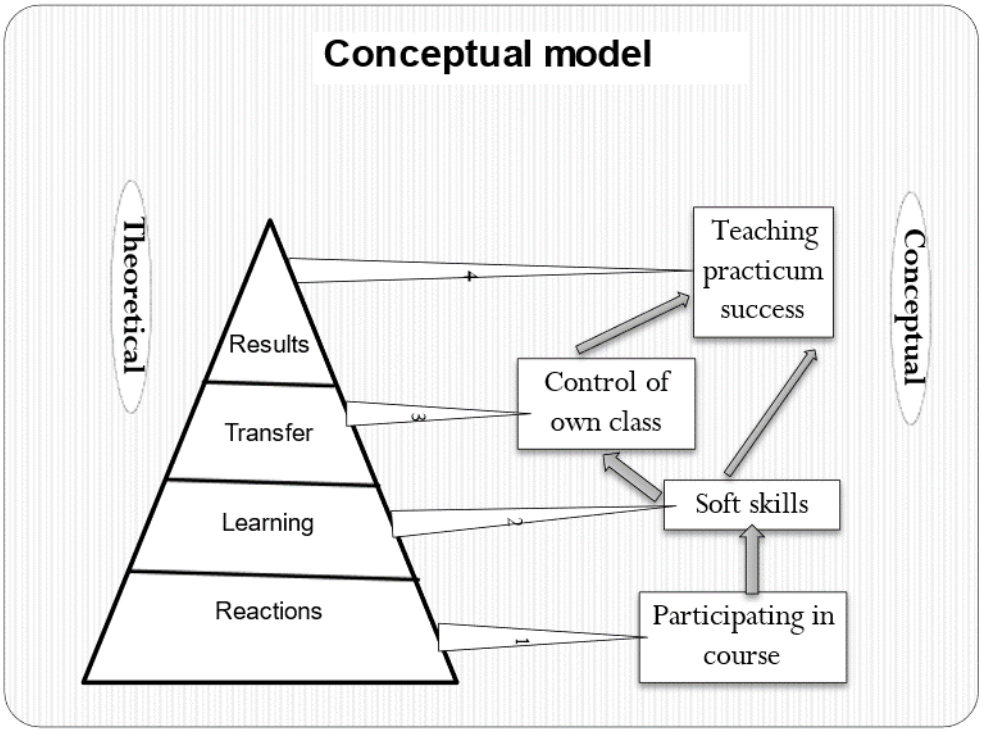

Figure 1 Conceptual model

Aim of the Study

The aim of study was to determine the level of soft skills gained by pre-service teachers and its potential effect on teaching performance success at senior secondary education level in north-central Nigeria, to further broaden current knowledge of soft skills.

Research Questions

The following research questions guided the study: "What is the degree of the overall soft skills developed by participant pre-service teachers in the course?" and "Did the soft skills developed by pre-service teacher participants have a positive effect on class control and teaching practicum success?"

These questions are based on the assumptions that the existing content of the curriculum and instruction unit for teacher education at the university level is clear about the nature of soft skills required of its graduates; the existing curriculum can sufficiently support students to acquire soft skills for effective teaching performance success; and that soft skills are regarded as less important than technical skills by accreditation panels.

Robles (2012) posits that hard skills are part of most educational curricula, but that soft skills need further emphasis at university level. Taylor (2016) reveals that soft skills of graduates were not developed adequately at universities in South Africa. However, Kechagias (2011) says that soft skills training can effectively take place in the classroom, an indication that universities are suitable places to inculcate the required soft skills in students.

Method

Procedures

As a non-experimental study, we conceptualised our study as a course exit survey design with a paper-and-pencil questionnaire administered once at each university in May 2019. The survey lasted 30 minutes during which the students were given incentives upon submitting their script and were assured of the confidentiality of their responses. This procedure was appropriate because it fit the objective of the study and had the capacity to minimize the limitations that could prevail (Ary, Jacobs, Sorensen & Walker, 2014; Creswell, 2014; Hair et al., 2018).

Participants

Our sample consisted of all final-year undergraduate education students from the five federal universities in north-central Nigeria in the 2018/2019 academic session. Our initial sample was 885 students, representing 20.3% of the total of 4,432 students. We distributed paper questionnaire to 885 respondents and 800 were returned, resulting in a response rate of 90%. Of this, 28 questionnaires were not usable. We proceeded with 772 questionnaires as final sample for data analysis since we were going to use PLS-SEM for analysis, which can deliver latent variables scores, thus

avoiding problems associated with the sample size (Hair et al., 2018). Although most of the participants were male (60%), the students were of both genders; consistent with the general distribution of gender within Nigerian universities. The students' ages ranged from 20 to 50 years. All participants had completed and passes the soft skills course. Proportionate sampling was employed to select samples for each university, while simple random sampling was adopted to select samples from each university. The result on distribution of respondents based on institutions, gender, age, number in lecture hall, and previous teacher training exposure is presented in Table 1.

Table 1 Demographic profile of respondents

Characteristics	*N* = 722	%
INSTITUTION		
Federal University of Technology Minna	90	12.4%
University of Jos	205	28.3%
Federal University of Agriculture Makurdi	150	20.7%
University of Ilorin	176	24.3%
University of Abuja	101	13.9%
GENDER		
Female	289	40.0%
Male	433	60.0%
TEACHING EXPERIENCE LEVEL		
Continuing students	329	45.6%
New students	393	54.4%
AGE (range) in years		
Below 20	63	8.7%
20–30	562	77.8%
31–40	89	12.3%
41–50	7	1.0%
Over 50	1	1.0%

Instrumentation

Soft skills were assessed using the soft skills scale (SSS) developed by Kechagias (2011) for the Measuring and Assessing of Soft Skills project in Europe. As preferred scale for this study we used the version modified by Aworanti et al. (2015) for use in Nigeria. The SSS consists of 50 subscales assessing five underlying sets of dimensions related to the objectives of the course: conscientiousness, teamwork, communication, lifelong learning, and creativity/critical thinking skills. The scale consists of 50 items on five-point Likert response scales: IP = Inadequately Prepared; FP = Fairly Prepared; SP = Somewhat Prepared; WP = Well Prepared; and AP = Adequately Prepared. A higher score indicates that the students were adequately prepared on the item during the course presented in their undergraduate teacher training.

Teaching performance success (TPS) was investigated using an adaptation of the teaching performance related items developed by Moreno-Murcia, Torregrosa and Pedreño (2015). This was used to measure the respondents' perception of teaching performance success for the purpose of measuring job performance among secondary school teachers in a standardised format. It was a self-administered survey intentionally designed for pre-service teachers in their final year of teacher training. The teaching performance scale is an established questionnaire developed by Moreno-Murcia et al. (2015) from a thorough survey of related questionnaires on good teaching and quality. To ensure that all items in the instrument were suitable for measuring each indicator, this scale was used to measure three major dimensions of teaching performance that relate to soft skills effect: planning lessons, delivering lessons, and results. Teaching performance was measured by 28 items. The respondents could answer CD = Completely Disagree (score of 1); FA = Fairly Agree (score of 2); SA = Somewhat Agree (score of 3); QA = Quite Agree (score of 4) or CA = Completely Agree (score of 5) for each of these items. A higher total score indicates that the particular respondent was more prone to performing well in the workplace.

To collect data on control of own class construct, *Class size scale* (CSS) was adopted from Vandenberg, (2012). This section comprised 9 items with only one dimension. A five-point Likert scale ranging from 1 (Completely Disagree) to 5 (Completely Agree) was used in the instrument of the study. Respondents were required to answer either CD = Completely Disagree (score of 1); FA = Fairly Agree (score of 2); SA = Somewhat Agree (score of 3); QA = Quite Agree (score of 4) or CA = Completely Agree (score of 5) for each of these items. A higher total score indicates that the particular respondent was in complete agreement with the statement. Examples of the items were: "Class size effects", "One-on-one time with students", "Ease to use group instruction", and more.

Analytical Strategy

Before further analysis of the data was done, we did preliminary investigations using the statistical package for social science. Issues of missing data, multicollinearity, outliers, normality and exploratory factor analysis (EFA) were considered. PLS-SEM was used to address the research questions. PLS-SEM was deemed fit in dealing with multi-item variables and mediation path testing. SMARTPLS version 3.0 was employed to perform PLS-SEM since it allows for the simultaneous estimation of both measurement and structural model (Hair et al., 2018; Ringle, Wende & Becker, 2015). We ran the consistent partial least square (PLS) algorithm function and evaluated the measurement model using steps suggested by Hair et al. (2018).

Results

Preliminary Results

To ensure that the recycled questions fit the study, an exploratory factor analysis was undertaken. It was hypothesised that the recycled questions were not accurate measures of their constructs in this study. An EFA was carried out on each of the three scales. According to Yong and Pearce (2013), EFA is done by researchers to discover the variables that go together when the study involves a few or hundreds of variables to facilitate interpretations.

EFA was done in accordance with the guidelines outlined by experts (Yong & Pearce, 2013). Factors were being rotated so that the result would be easier to interpret. Factor loadings lower than 0.4 were ignored because they were considered to be lower than the acceptable threshold value of 0.4, loadings ≥ 0.4 are typically considered high (Kline, 2002; Yong & Pearce, 2013). In addition, Yong and Pearce (2013) recommend that the correlation (r) must be greater than 0.3 since anything less indicates a weak relationship between variables. According to them, variables that have singularity close to 0 and multicollinearity close to 1 should be removed. We thus deleted any factor lower than 0.4 and factors with fewer than two items were also deleted unless they had correlation $r \geq 0.7$ (Kline, 2002); items with communalities lower than 0.4 were deleted because experts posit that items with such communalities are not highly correlated with one or more of the factors in the solution (Tabachnick & Fidell, 2007). These analyses revealed that SSS has five factors, TPS three factor while CSS has only one factor with Kaiser-Meyer-Olkin (KMO) 0.967, 0.924 and 0.897 respectively (more details Appendix A). From the results is it clear that the three scales were good. Full EFA measures that display indicators with component loadings for each indicator are presented in Appendix A.

PLS-SEM: How the Model Developed

The evaluation of the PLS-SEM results began with the assessment of the measurement model. PLS-SEM was considered appropriate because it made it possible to depict multiple effects in a single model (Chen & Yang, 2014). Our measurement model results were evaluated based on thresholds suggested by experts (Bagozzi & Yi, 1988; Hair et al., 2018; Henseler, Ringle & Sarstedt, 2015).

The measurement model results summarised in Table 2 reveal the existence of a good convergent validity (indicator loading ranges from 0.631–0.930; indicator reliability ranges from 0.401–0.906; and average variance extracted (AVE) ranges from 0.520–0.583) and internal consistency reliability (composite reliability ranges from 0.861–0.921 and Cronbach alpha ranges from 0.817–0.907). These results show that the conceptual soft skills model used in this study worked well and measured reliably (Hair et al., 2018; Henseler et al., 2015) Only 13 indicators (commitment 3, creativity 1, teamwork 1, lesson delivery 3, lesson planning 4, and class size 1) identified from the EFA to have hung together in their respective constructs were dropped from the measurement model for not satisfying the evaluation criteria before the final PLS-SEM results were assessed (see Figure 2). Full measurement model measures are presented in Appendix B.

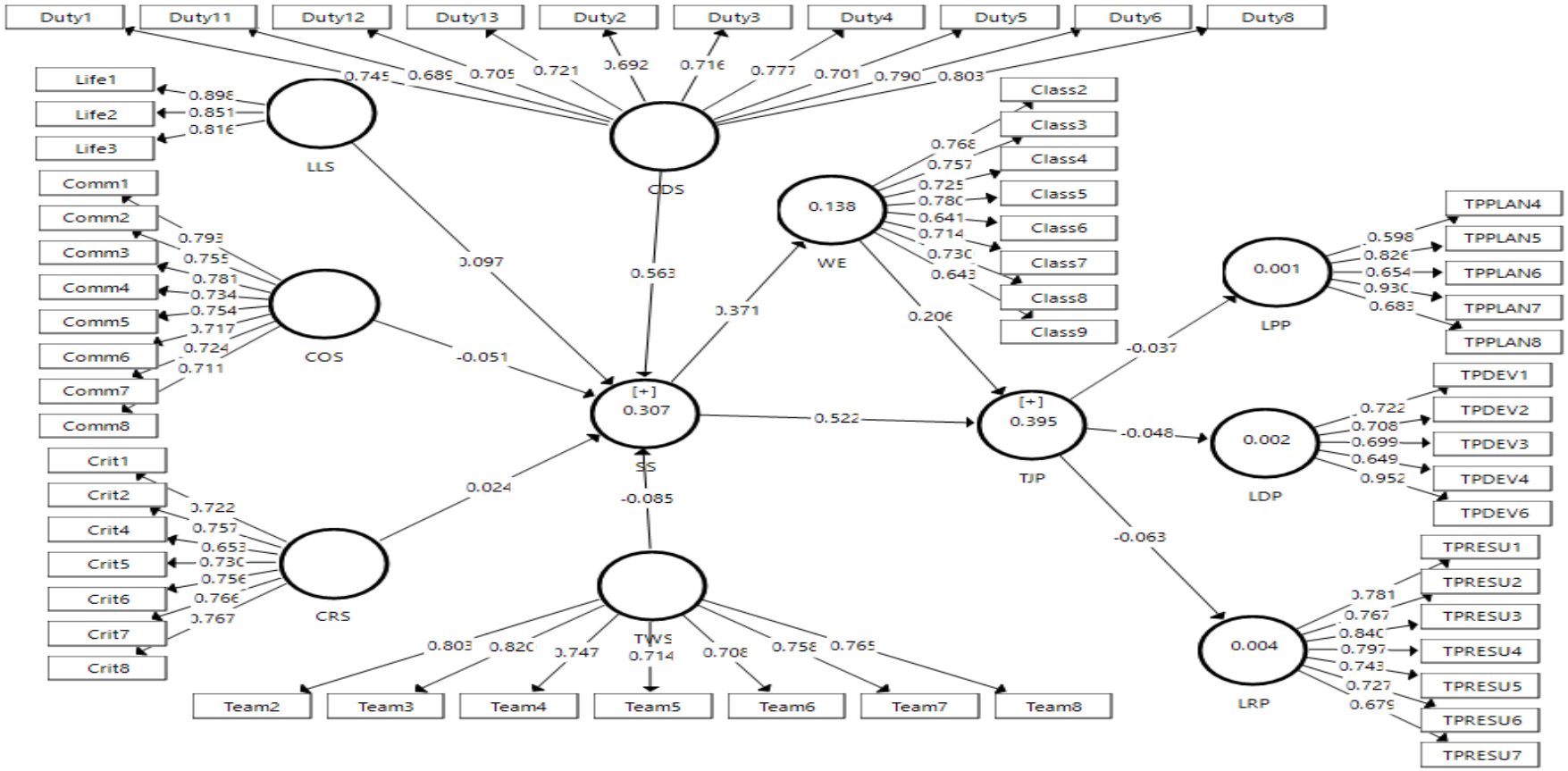

Figure 2 Soft skills model and PLS-SEM results

Note. SS: Soft skills; TJP: Teaching job performance; WE: Class size; CDS: Commitment to duty; LLS: Lifelong learning; COS: Communication skills; CRS: Creativity skills; TWS: Teamwork skills; LPP: Lesson planning performances; LDP: Lesson delivery performance; LRP: Lesson results.

Table 2 PLS-SEM assessment results of measurement model

		Convergent validity			Internal consistency reliability	
		Loadings	Indicator reliability	AVE	Composite reliability Pc	Cronbach's alpha
Latent variable	Number of indicators	> 0.60	> 0.40	> 0.50	> 0.70	0.70-0.90
Class size	8	0.641-0.780	0.410- 0.608	0.520	0.896	0.868
Communication skills	8	0.711-0.793	0.514-0.628	0.557	0.910	0.887
Creativity skills	7	0.653-0.767	0.426-0.588	0.543	0.892	0.859
Commitment to duty	10	0.689-0.790	0.474-0.624	0.540	0.921	0.907
Lifelong learning	3	0.816-0.898	0.665-0.806	0.732	0.891	0.817
Delivering lesson	10	0.649-0.952	0.421-0.906	0.568	0.886	0.881
Planning lesson	5	0.631-0.930	0.401-0.864	0.560	0.861	0.852
Results	7	0.679-0.840	0.461-0.705	0.583	0.907	0.882
Teamwork skills	7	0.714-0.820	0.501-0.672	0.578	0.905	0.878

Finally, the discriminant validity was assessed using the Heterotrait-Monotrait ratio (HTMT) criteria. Many experts now contend that rather than using the Fornell & Larcker criterion to check discriminant validity, it may be more useful to check the HTMT inference criterion (Hair et al., 2018). All HTMT results range between 0.030–0.897, this is below the conservative threshold of 0.85–0.90 (Henseler et al., 2015) (see Table 3).

Table 3 Discriminant validity: Heterotrait-Monotrait ratio (HTMT)

	CDS	COS	CRS	LDP	LLS	LPP	LRP	SS	TJP	TWS	WE
CDS											
COS	0.819										
CRS	0.827	0.847									
LDP	0.057	0.071	0.066								
LLS	0.628	0.567	0.701	0.030							
LPP	0.058	0.075	0.056	0.156	0.036						
LRP	0.056	0.065	0.072	0.18	0.053	0.897					
SS	0.533	0.397	0.439	0.023	0.388	0.039	0.086				
TJP	0.53	0.409	0.44	0.025	0.38	0.021	0.062	0.599			
TWS	0.705	0.669	0.667	0.026	0.629	0.042	0.052	0.315	0.354		
WE	0.585	0.579	0.564	0.063	0.401	0.076	0.044	0.395	0.426	0.47	

Structural Model Assessment

The arrows between latent constructs indicate the direction of the assumed influence, statistically referred to as the correlation (β) between the factors in PLS-SEM (Figure 2). The coefficient of determination shown by the values in the circles in Figure 2 indicated how many percent of variability was explained by the other factors. Our analysis revealed that the variance in changes in soft skills developed as shown in the coefficient of determination is 0.307. As a rule of thumb, a coefficient of determination value of 0.67 is substantial, 0.30 is average and 0.19 is weak (Hair et al., 2018). This coefficient of determination value is explained by participation in the curriculum and instruction course unit in which the effect of conscientiousness was f^2 = 0.157, 95% CI [0.46, 0.66], p = 0.00, communication was f^2 = 0.001, 95% CI [-0.16, 0.04], p = 0.322, creativity was f^2 = < 0.001, 95% CI [-0.09, 0.14] p = 0.676, lifelong learning was f^2 = 0.008, 95% CI [0.02. 0.18], p = 0.005, teamwork was f^2 = 0.006, 95% CI [-0.17, -0.00], and p = 004 skills were inculcated in the pre-service teachers during undergraduate studies (see Table 4). This shows that the students' participation in the curriculum and instruction course led to average development of soft skills among the students. This in turn generated a sense among the students that they had control over their classes in varying class sizes f^2 = 0.0160, 95% CI [0.29, 0.45], p = 000. Ultimately, it led to stronger direct effect f^2 = 0.382, 95% CI [0.45, 0.60], p = 000 on teaching performance success related to lesson planning, delivery and results. As a rule of thumb, an f^2 value if 0.02 is small, 0.17 is medium and 0.35 is large (Cohen, 1988). Thus, we found support for control of own class as a mediator for the relationship.

Table 4 Path coefficients of the structural model and significance testing results

Paths	Path coefficients	95% Bca confidence interval	*t* statistics (|O/STDEV|)	*p*-values $p < 0,05$	Significant ($p < 0.05$)?	f^2 effect size	q^2 effect size
CDS → SS	0.563	0.456, 0.662	10.707	0.000	Yes	0.157	0.15
COS → SS	-0.051	-0.156, 0.045	0.99	0.322	No	0.001	-0.002
CRS → SS	0.024	-0.091, 0.138	0.418	0.676	No	< 0.001	-0.002
TJP → LDP	-0.039	-0.110, 0.111	0.642	0.521	No	0.002	-0.001
LLS → SS	0.097	0.019, 0.179	2.386	0.017	Yes	0.008	0.005
TJP → LPP	-0.018	-0.113, 0.094	0.326	0.745	No	< 0.001	-0.001
TJP → LRP	-0.012	-0.076, 0.094	0.276	0.783	No	< 0.001	< 0.001
SS → TJP	0.52	0.447, 0.597	13.388	0.000	Yes	0.382	0.361
SS → WE	0.371	0.287, 0.451	8.812	0.000	Yes	0.16	0.071
TWS → SS	-0.085	-0.173, -0.004	2.005	0.045	Yes	0.006	0.004
WE → TJP	0.207	0.129, 0.279	5.429	0.000	Yes	0.061	0.051

Discussion

Soft skills is the sense of having commitment, collaboration, adaptability, innovation and communication skills to personally engage in teaching, in essence, it gives confidence in a person to engage in tasks (Melser, 2019). Realising the importance of soft skills for teachers, Nigeria introduced the soft skills course in its teacher training programme. However, there is little evidence of the level of implementation in preservice teachers' training at universities in Nigeria. We conceptualised our study to understand the extent to which soft skills have developed in final year student. Drawing from social learning and Kirkpatricks' theory, the first objective of the study was to determine the level of pre-service teachers' overall soft skills development. Findings from the study reveal that overall soft skills developed by the students (pre-service teachers) were moderate and satisfactory (Raithel & Schwaiger, 2015). This shows that their participation in the curriculum and instruction course led to average development of soft skills.

The value of level of soft skills development by pre-service teachers in this study correlates fairly well with Tang (2020) who revealed that soft skills attributes accounted for an average percentage of the variance in soft skills in graduates. It further supports the idea of inculcating soft skills in pre-service teachers. It was also consistent with the findings by Ball, Joyce and Anderson-Butcher, (2016) that the three 21st century factors (leadership and responsibility; working with others; adaptability) identified in their study moderately correlated in explaining the variance in the level of students' development of 21st century life and career skills. Also consistent is the findings by Roos, Lennox and Botha-Ravyse (2016) that soft skills development in outdoor adventure education among students after participating in 2 years' adventure training was on the medium side.

Individual attributes influenced pre-service teachers' overall soft skills developed in the following ways, conscientiousness had the strongest effect on soft skills development, followed by lifelong learning skills. The effect of creativity skills was weak, although also positive. Communication skills and teamwork skills negatively affected pre-service teachers' level of soft skills development.

Research shows that conscientiousness is consistently associated with educational activities (Farrington et al., 2012; Richardson & Abraham, 2009; Tackman et al., 2017). Conscientiousness is also always more highly correlated with work performance than other soft skills dimensions put together (Barrick et al., 2001; Pellegrino & Hilton, 2012). Eells (2011) found that teamwork skills had a medium effect on teaching. Anecdotes from literature reveal that communication is important in teaching, however, it was not significant in this study. Clearly communicated lessons coupled with proper instructions on expectations have been reported to have positive effects on teaching outcomes. For example, Fendick (1990) determined a medium effect between communication clarity and teaching success. Hattie (2015) determined a strong effect of teachers' clarity on students' achievements.

However, the way in which individual attributes contributed to the coefficient of the determination level of soft skills in the present study is inconsistent with Tang (2020), who reported that teamwork and lifelong learning skills were the most important soft skills acquired by graduates. This is similar to the findings in this study but commitment to duty was discovered to have the strongest effect on soft skills development. Balcar, Šimek and Filipová, (2018) found that there was a soft skills gap of 23% among university graduates in the Czech Republic cutting across all disciplines. Meeks (2017) reports that it was evident that there was a lack of soft skills among recent university graduates.

Davis (2003) says that teachers proficient in technical competencies were failing on the job because they lacked essential soft skills. Koponen, Asikainen, Viholainen and Hirvonen, (2017) found that teachers' skills had an influence on their teaching and the performance of their students. Barton and Avery (2016) indicate that skilful teachers teach in ambitious ways. The consequences of the soft skills gap are enormous. "When people lack the right set of soft skills for critical jobs, entire geographical regions and nations are affected since there are not enough individuals with the soft skills to meet the demands of the market" (Meeks, 2017:10).

Taking cues from Kirkpatrick's theory that states that learning is instrumental to behavioural change and results, we determined the direct effect of soft skills on class control and teaching success. Our analysis reveals that class size had a complementary mediating role connection between soft skills and teaching performance. It explains that when teachers are equipped with sufficient soft skills, they have control over their classes. This is consistent with Ball et al. (2016) who found that students' perceptions of their 21st century skills was positively correlated to their perception of the learning environment. Suggesting that with more development of 21st century skills, their understanding of transactions within the learning environment would be warranted. This was equally consistent with Tracey, Tannenbaum and Kavanagh (1995) who support the view that control over the work environment is important for the application of newly acquired skills. Similarly, Rouiller and Goldstein (1993) also found that transfer of post

training knowledge had a direct impact on personnel workplace performance.

The findings from this study explain that the challenges associated with classroom interactions would be minimised when teachers have substantial soft skills because they will have control over their classrooms, irrespective of the size thereof. Blatchford, Russell, Bassett, Brown and Martin (2007) explain that class size has an effect on both teachers and students and to minimise the extent of this effect, it would depend on how teachers adapt teaching to different class sizes. More should be done to enhance teacher training and professional development to overcome such contextual characteristics.

Implications

One important implication of the study is derived from the findings on the level of pre-service teachers' overall soft skills development. The findings from the study point to the fact that the extent of their soft skill was average. Analysing the data with a view to identify which entities contributed more to the variance in the overall soft skills showed specific sets of capabilities. The initial plan for introducing the curriculum and instruction module in pre-service teachers' undergraduate courses was to help teachers develop a substantial level of soft skills while still at the university. Identifying and codifying the attributes that contributed to the overall soft skill development showed that their respective contributions were not uniform and was also inadequate to provide them with a substantial level of soft skills. This implies that it is important to properly prepare prospective teachers in all dimensions of soft skills during undergraduate studies. Thus, curriculum planners should continue to refine the content of the curriculum and if possible, infuse some aspects into other course units to reinforce and improve their students' soft skills. Hence, if teacher education courses provided sufficient and appropriate input on how soft skills should be taught, the teachers would be more confident.

Another implication stems from the direct impact of overall soft skills on teaching performance success. The findings show the extent of the overall soft skills development as being average and having a large effect on teaching performance success. Accordingly, we suggests that universities (faculties of education) need to ensure that adequate provision is made for manpower and time allocation to inculcate the skills in pre-service teachers. How to nurture and support the development of soft skills may need to be addressed in terms of how such skills could be taught and evaluated through proper allocation of teaching and evaluation time in the institutions' programmes. It is hoped that this effort will reduce lecturers' work and welcome flexibility in teaching.

Hattie (2015) explains that teachers rarely change how they teach in different classes. Class size thus has a minimal effect on students' academic achievement. Thus, evidence shows that soft skills would play a very big role in creating a supportive classroom. With the prevailing harsh economy, funding on reducing the number of students in a class can be a back-breaking task. So, the way forward is to inculcate teachers' soft skills since it has a direct positive effect on control of their own class as well as direct and indirect positive effects on teaching performance success.

Finally, the study provided the needed empirical data on the actual soft skills of pre-service teachers and how these affect their perception of teaching performance. This information is important given that limited studies exist in the study area. As a result of soft skills assessment, learners can gain insight into others' views on their behaviour, therefore, producing accountability. Evidence on the extent of overall soft skills developed by pre-service teachers would allow policymakers, curriculum experts, university lecturers, and other stakeholders to design initiatives, tools, and strategies to cope with possible challenges.

Conclusion

In a century that soft skills matter more than they ever have, employers are looking for teachers that are smart about the curriculum, innovative, and know how to help students acquire the kind of knowledge they need for success in school and future life. The growth in teachers' expectations requires teachers to have more than hard skills upon their entry into teaching. Experts explain that task performance is generally determined by character skills (non-cognitive skills) and cognitive skills (Kautz, Heckman, Diris, Ter Weel & Borghans, 2014). Prior research in developed economies shows that soft skills attributes correlate with task performance, which includes educational achievement (Hattie, 2015; Kautz et al., 2014; Lamb et al., 2017). Our study was designed purposely to assess the level of soft skills acquired by pre-service teachers who took the curriculum and instruction course, and determine soft skills' global effect on teaching performance success in practicum. The assessment of the structural model revealed that their participation in the curriculum and instruction course resulted in average development of soft skills. This in turn generated a sense among the students that they had control over classroom instruction in varying class sizes. Ultimately, it led to a stronger direct effect on teaching performance success in terms of lesson planning, development, and results. Class control

played a complementary mediation role on the relationship between soft skills and teaching success.

Recommendation

We recommend that teacher educators should give adequate attention to the teaching of soft skills to pre-service teachers in order to enhance their level of soft skills. Teacher educators should also use situational judgement tests while evaluating their teaching. By teaching and evaluating these skills regularly, they would prepare well rounded teachers for the future. Hassan, Maharoff, Abiddin and Ro'is (2015) suggest that embedding soft skills in teacher training is difficult, but it is possible when teacher trainers understand how to do this.

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Authors' Contributions

Macqual Stephen M. wrote the manuscript and collected data. Hutkemri Z. and Macqual Stephen M. analysed the data and did the interpretation. Umi KMS and Hutkemri Z supervised the study. All authors reviewed and approved the final copy.

Notes

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References

Adeosun O 2012. *Teacher education programmes and the acquisition of 21st century skills: Issues and challenges in Nigeria*. Available at https://home.hiroshima-u.ac.jp/cice/wp-content/uploads/2014/03/4-2-91.pdf Accessed 4 March 2019.

Ahmad H 2012. *Mission of public education in Malaysia: The challenge of transformation*. Kuala Lumpur, Malaysia: University of Malaysia Press.

Andrews J & Higson H 2008. Graduate employability, 'soft skills' versus 'hard' business knowledge: A European study. *Higher Education in Europe*, 33(4):411–422. https://doi.org/10.1080/03797720802522627

Ary D, Jacobs LC, Sorensen CK & Walker DA 2014. *Introduction to research in education* (9th ed). Belmont, CA: Wadsworth.

Aworanti OA, Taiwo MB & Iluobe OI 2015. Validation of Modified Soft Skills Assessment Instrument (MOSSAI) for use in Nigeria. *Universal Journal of Educational Research*, 3(11):847–861. https://doi.org/10.13189/ujer.2015.031111

Bagozzi RP & Yi Y 1988. On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16:74–94. https://doi.org/10.1007/BF02723327

Balcar J, Šimek M & Filipová L 2018. Soft skills of Czech graduates. *Národohospodářský Obzor*, 18(1):45–60. https://doi.org/10.2478/revecp-2018-0003

Ball A, Joyce HD & Anderson-Butcher D 2016. Exploring 21st century skills and learning environments for middle school youth. *International Journal of School Social Work*, 1(1):1–15. https://doi.org/10.4148/2161-4148.1012

Bandura A 1986. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Barrick MR, Mount MK & Judge TA 2001. Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, 9(1-2):9–30. https://doi.org/10.1111/1468-2389.00160

Barton KC & Avery PG 2016. Research on social studies education: Diverse students, settings, and methods. In DH Gitomer & CA Bell (eds). *Handbook of research on teaching* (5th ed). Washington, DC: American Educational Research Association.

Blatchford P, Russell A, Bassett B, Brown P & Martin C 2007. The effect of class size on the teaching of pupils aged 7 – 11 years. *Social Effectiveness and School Improvement*, 18(2):147–172. https://doi.org/10.1080/09243450601058675

Bronson E 2007. Career and technical education is ideally suited to teaching students the soft skills needed to succeed in the 21st century workplace. *Techniques: Connecting Education & Careers*, 82(7):30–31.

Chen D & Yang TC 2014. The pathways from perceived discrimination to self-rated health: An investigation of the roles of distrust, social capital, and health behaviours. *Social Science & Medicine*, 104:64–73. https://doi.org/10.1016/j.socscimed.2013.12.021

Cheng A & Zamarro G 2016. *Measuring teacher conscientiousness and its impact on students: Insight from the measures of effective teaching Longitudinal Database* (EDRE Working Paper No. 2016-05). https://doi.org/10.2139/ssrn.2768970

Cohen J 1988. *Statistical power analysis for the behavioral sciences* (2nd ed). Hillsdale, NJ: Lawrence Erlbaum Associates.

Creswell JW 2014. *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed). Upper Saddle River, NJ: Pearson Education Ltd.

Darling-Hammond L 2000. How teacher education matters. *Journal of Teacher Education*, 51(3):166–173. https://doi.org/10.1177/002248710051003002

Darling-Hammond L 2006. *Powerful teacher education: Lessons from exemplary programs*. San Francisco, CA: Jossey-Bass.

Darling-Hammond L 2017. Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education*, 40(3):291–309. https://doi.org/10.1080/02619768.2017.1315399

Davis KS 2003. "Change is hard": What science teachers are telling us about reform and teacher learning of innovative practices. *Science Education*, 87(1):3–30. https://doi.org/10.1002/sce.10037

Dudley NM, Orvis KA, Lebiecki JE & Cortina JM 2006. A meta-analytic investigation of conscientiousness in the prediction of job performance: Examining the intercorrelations and the incremental validity of narrow traits. *Journal of Applied Psychology*, 91(1):40–57. https://doi.org/10.1037/0021-9010.91.1.40

Eells RJ 2011. Meta-analysis of the relationship between collective teacher efficacy and student achievement. PhD dissertation. Chicago, IL: Loyola University Chicago. Available at https://ecommons.luc.edu/luc_diss/133. Accessed 4 May 2019.

Farrington CA, Roderick M, Allensworth E, Nagaoka J, Keyes TS, Johnson DW & Beechum NO 2012. *Teaching adolescents to become learners. The role of noncognitive factors in shaping school performance: A critical literature review*. Chicago, IL: University of Chicago Consortium on Chicago School Research.

Federal Republic of Nigeria 2013. *National policy on education* (6th ed). Lagos, Nigeria: Nigerian Educational Research and Development Council.

Fendick F 1990. The correlation between teacher clarity of communication and student achievement gain: A meta-analysis. PhD dissertation. Gainesville, FL: University of Florida. Available at https://archive.org/details/correlationbetwe00fend/page/n0. Accessed 30 March 2019.

Feys M, Anseel F & Wille B 2011. Improving feedback reports: The role of procedural information and information specificity. *Academy of Management Learning & Education*, 10(4):661–681. https://doi.org/10.5465/amle.2010.0054

George P 2000. Breaking ranks in action. *Principal Leadership*, 1(4):56–61.

Gibb S 2014. Soft skills assessment: Theory development and the research agenda. *International Journal of Lifelong Education*, 33(4):455–471. https://doi.org/10.1080/02601370.2013.867546

Good TL & Lavigne AL 2017. *Looking in classrooms* (11th ed). New York, NY: Routledge. https://doi.org/10.4324/9781315627519

Hair JF Jr, Sarstedt M, Ringle CM & Gudergan SP 2018. *Advanced issues in partial least squares structural equation modelling*. Thousand Oaks, CA: Sage.

Hassan A, Maharoff M, Abiddin NZ & Ro'is I 2015. Teacher trainers' and trainee teachers' understanding towards the curriculum philosophy regarding soft skills embedment in the Malaysian Institute of Teacher Education. *Policy Futures in Education*, 14(2):164–175. https://doi.org/10.1177/1478210315597857

Hattie J 2015. The applicability of Visible Learning to higher education. *Scholarship of Teaching and Learning in Psychology*, 1(1):79–91. https://doi.org/10.1037/stl0000021

Hendriana H 2017. Teachers' hard and soft skills in innovative teaching of mathematics. *World Transactions on Engineering and Technology Education*, 15(2):145–150. Available at http://www.wiete.com.au/journals/WTE&TE/Pages/Vol.15,%20No.2%20(2017)/09-Hendriana-H.pdf. Accessed 5 August 2021.

Henseler J, Ringle CM & Sarstedt M 2015. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1):115–135. https://doi.org/10.1007/11747-014-0403-8

Hornby AS 2015. *Oxford advanced learner's dictionary* (9th ed). Oxford, England: Oxford University Press.

Ijioma BC, Afurobi AO, Izuagba AC & Ifegbo PC 2014. Teacher educators' perception of the influence of the two models of initial teacher education programme on the quality of student teachers' teaching. *Researcher*, 6(10):55–63. https://doi.org/10.7537/marsrsj061014.09

Kautz T, Heckman JJ, Diris R, Ter Weel B & Borghans L 2014. *Fostering and measuring skills: Improving cognitive and non-cognitive skills to promote lifetime success* (National Bureau of Economic Research Working Paper 20749). Cambridge, MA: National Bureau of Economic Research. Available at https://www.nber.org/system/files/working_papers/w20749/w20749.pdf. Accessed 13 August 2021.

Kechagias K (ed.) 2011. *Teaching and assessing soft skills*. Neapolis, Greece: 1st Second Chance School of Thessaloniki. Available at http://research.education.nmsu.edu/files/2014/01/396_MASS-wp4-final-report-part-1.pdf. Accessed 13 August 2021.

Klaus P 2010. Communication breakdown. *California Job Journal*, 28(1248):1–9.

Kline P 2002. *An easy guide to factor analysis*. London, England: Routledge.

Koponen M, Asikainen MA, Viholainen A & Hirvonen PE 2017. How education affects mathematics teachers' knowledge: Unpacking selected aspects of teacher knowledge. *EURASIA Journal of Mathematics, Science and Technology Education*, 13(6):1943–1980. https://doi.org/10.12973/eurasia.2017.01209a

Lamb S, Maire Q & Doecke E 2017. *Key skills for the 21st century: An evidence-based review*. Available at https://vuir.vu.edu.au/35865/1/Key-Skills-for-the-21st-Century-Analytical-Report.pdf. Accessed 24 April 2019.

Luther A 2000. The "old" method of teaching vs. the "new" method of teaching. *Journal of Thought*, 35(2):59–69.

Mahasneh JK 2016. A theoretical framework for implementing soft skills in construction education utilizing design for six sigma. PhD dissertation. Blacksburg, VA: Virginia Polytechnic Institute and State University. Available at https://vtechworks.lib.vt.edu/bitstream/handle/10919/81455/Mahasneh_JK_D_2016.pdf?sequence=2&isAllowed=y. Accessed 6 August 2021.

Manninen J & Meriläinen M 2015. *Benefits of lifelong learning - BeLL Survey Results*.

Meeks GA 2017. Critical soft skills to achieve success in the workplace. PhD thesis. Minneapolis, MN: Walden University. Available at https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=5180&context=dissertations. Accessed 11 May 2019.

Melser NA 2019. *Teaching soft skills in a hard world: Skills for beginning teachers*. Lanham, MD: Rowman & Littlefield.

Moreno-Murcia JA, Torregrosa YS & Pedreño NB 2015. Questionnaire evaluating teaching competencies in the university environment. Evaluating of teaching competencies in the university. *New Approaches in Educational Research*, 4(1):54–61. https://doi.org/10.7821/naer.2015.1.106

Moses I, Admiraal W, Berry A & Saab N 2019. Students-teachers' commitment to teaching and intentions to enter the teaching profession in Tanzania. *South African Journal of Education*, 39(1):Art. #1485, 15 pages. https://doi.org/10.15700/saje.v39n1a1485

North Carolina Business Services Representatives 2012. *Closing the gap: 2012 Skills Survey of North Carolina Employers*. Available at http://regionalpartnershipwdb.org/wp-content/uploads/2016/08/2012SkillsSurveyWDBFinal1.pdf. Accessed 15 August 2021.

Obanya P 2007. *Thinking and talking education*. Ibadan, Nigeria: Evans.

Osei Boakye E 2015. *The impact of teamwork on employee performance*. Accra, Ghana: University of Ghana. https://doi.org/10.13140/RG.2.1.4959.8804

Pellegrino JW & Hilton ML (eds.) 2012. *Education for life and work: Developing transferable knowledge and skills in the 21st century*. Washington, DC: The National Academic Press. Available at https://hewlett.org/wp-content/uploads/2016/08/Education_for_Life_and_Work.pdf. Accessed 15 August 2021.

Raithel S & Schwaiger M 2015. The effects of corporate reputation perceptions of the general public on shareholder value. *Strategic Management Journal*, 36(6):945–956. https://doi.org/10.1002/smj.2248

Rao MS 2018. Soft skills: Toward a sanctimonious discipline. *On the Horizon*, 26(3):215–224. https://doi.org/10.1108/OTH-06-2017-0034

Richardson M & Abraham C 2009. Conscientiousness and achievement motivation predict performance. *European Journal of Personality*, 23(7):589–605. https://doi.org/10.1002/per.732

Ringle CM, Wende S & Becker JM 2015. *SmartPLS 3*. Bönningstedt, Germany: SmartPLS.

Robles MM 2012. Executive perceptions of the top 10 soft skills needed in today's workplace. *Business and Professional Communication Quarterly*, 75(4):453–465. https://doi.org/10.1177/1080569912460400

Roos SJ, Lennox A & Botha-Ravyse C 2016. Student's soft skill acquisition in an outdoor adventure education event over two years of participation. *International Journal of Social Sciences and Humanity Studies*, 8(2):196–208. Available at https://dergipark.org.tr/en/download/article-file/257179. Accessed 1 August 2021.

Rouiller JZ & Goldstein IL 1993. The relationship between organizational transfer climate and positive transfer of training. *Human Resource Development Quarterly*, 4(4):377–390. https://doi.org/10.1002/hrdq.3920040408

Schoeman S & Mabunda PL 2012. Teaching practice and the personal and socio-professional development of prospective teachers. *South African Journal of Education*, 32(3):240–254. https://doi.org/10.15700/saje.v32n3a581

States J, Detrich R & Keyworth R 2018. *Overview of teacher soft skills*. Oakland, CA: The Wing Institute. Available at https://www.winginstitute.org/teacher-compentencies-soft-skills. Accessed 5 May 2019.

Steensma H & Groeneveld K 2010. Evaluating a training using the "four levels model". *Journal of Workplace Learning*, 22(5):319–331. https://doi.org/10.1108/13665621011053226

Tabachnick BG & Fidell LS 2007. *Using multivariate statistics* (5th ed). New York, NY: Allyn and Bacon.

Tackman AM, Srivastava S, Pfeifer JH & Dapretto M 2017. Development of conscientiousness in childhood and adolescence: Typical trajectories and associations with academic, health, and relationship changes. *Journal of Research in Personality*, 67:85–96. https://doi.org/10.1016/j.jrp.2016.05.002

Tamkin P, Pearson G, Hirsh W & Constable S 2010. *Exceeding expectation: The principles of outstanding leadership*. London, England: The Work Foundation. Available at https://www.cass.city.ac.uk/__data/assets/pdf_file/0013/117031/ExceedingExpectationexecsumm.pdf.pdf. Accessed 15 August 2021.

Tang KN 2020. The importance of soft skills acquisition by teachers in higher education institutions. *Kasetsart Journal of Social Sciences*, 41:22–27. https://doi.org/10.1016/j.kjss.2018.01.002

Taylor E 2016. Investigating the perception of stakeholders on soft skills development of students: Evidence from South Africa. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 12:1–18. Available at http://www.ijello.org/Volume12/IJELLv12p001-018Taylor2494.pdf. Accessed 7 July 2019.

Tracey JB, Tannenbaum SI & Kavanagh MJ 1995. Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology*, 80(2):239–252.

Vandenberg KC 2012. Class-size and academic achievement. PhD dissertation. Statesboro, GA: Georgia Southern University. Available at https://digitalcommons.georgiasouthern.edu/cgi/viewcontent.cgi?article=1408&context=etd. Accessed 20 November 2018.

Watts M & Watts RK 2008. *Developing soft skills in students*. Available at http://l08.cgpublisher.com/proposals/64/index_html. Accessed 29 May 2019.

Wilhelm WJ 2004. Determinants of moral reasoning: Academic factors, gender, richness-of-life experiences, and religious preferences. *The Delta Pi Epsilon Journal*, 46(2):105–123. Available at https://www.researchgate.net/profile/William-Wilhelm-3/publication/234657306_Determinants_of_Moral_Reasoning_Academic_Factors_Gender_Richness-of-Life_Experiences_and_Religious_Preferences/links/5b6f39de92851ca65055f3a4/Determinants-of-Moral-Reasoning-Academic-Factors-Gender-Richness-of-Life-Experiences-and-Religious-Preferences.pdf. Accessed 31 July 2021.

Yong AG & Pearce S 2013. A beginner's guide to factor

analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2):79–94. https://doi.org/10.20982/tqmp.09.2.p079

Appendix A

Soft Skills Scale Component Loadings for the Rotated Components

	Components loadings					
Items	1	2	3	4	5	Communalities
Punctuality at work	0.649					0.451
Moral integrity on the job	0.648					0.644
Been readily available at work	0.631					0.553
Loyalty to duty	0.561					0.431
Efficiency	0.55					0.553
Effectiveness	0.536					0.633
Devotion to duty	0.529					0.531
Diligence in duty	0.526					0.545
Enthusiasm at work	0.518					0.51
Zealous in performing one's duty	0.479					0.492
Perseverance	0.455					0.602
Delegating duty to right persons	0.453					0.611
Observance of work ethics	0.438					0.500
Speaking skills		0.649				0.586
Communicating lesson		0.596				0.616
Polite request		0.594				0.572
Body language		0.584				0.401
Reading skills		0.573				0.579
Paying attention		0.534				0.613
Providing feedback		0.528				0.529
Writing skills		0.481				0.501
Operational support			0.728			0.578
On the job training			0.677			0.509
Administrative support			0.603			0.623
Mentoring			0.588			0.602
Observance of set goals			0.571			0.581
Confidence in the ability of others			0.558			0.541
Tolerance			0.543			0.553
Cooperation			0.492			0.526
Creativity in the job				0.588		0.531
Mastery of job content				0.559		0.511
Insightfulness				0.529		0.52
Turning challenges to opportunities				0.504		0.465
Turning weaknesses to strength				0.434		0.506
Carefulness				0.421		0.538
Fact finding				0.404		0.559
Followership traits				0.403		0.633
Eager to learn					0.704	0.537
Contentment					0.618	0.574
Seeking for improved knowledge					0.592	0.523
Eigenvalues	16.66	2.333	1.717	1.579	1.249	
% of variance	40.65	5.70	4.19	3.85	3.05	

Teaching Performance Scale Component Loadings for the Rotated Components

	Components loadings			
Items	1	2	3	Communalities
Provides clear information about lesson objectives, assessment methods and instructional strategies	0.714			0.537
Designs and relates the objectives to the content	0.706			0.548
Efficiently incorporates technology in planning lesson	0.684			0.534
Has a good command of content of the course	0.665			0.599
Adequately prepares for the tutorials requested	0.582			0.542
Organizes activities for students to actively participate in course assignment	0.578			0.534
Interweaves the content of subject matter with other subjects	0.546			0.583
Applies the established curriculum with a certain amount of flexibility for a better class dynamic	0.529			0.604
Promotes professional competence	0.473			0.533
Presents the minimum content of subject matter tailored to students		0.817		0.59
Is easily accessible (tutorials, emails, WhatsApp, etc.)		0.771		0.572
Allows students to organize and distribute part of the assignments to be performed in the course		0.757		0.516
Presents content following a logical and clear framework, highlighting the important points		0.706		0.538
Promotes individual work		0.69		0.518
Promotes teamwork		0.671		0.637
Relates the teaching to the professional environment		0.65		0.557
Encourages students' interest and the motivation to learn		0.644		0.428
Informs students of the competencies they will be expected to acquire			0.715	0.447
Applies the assessment criteria of the activities as established in the subject's curriculum			0.679	0.597
Allows and encourages student's participation			0.66	0.584
Provides initial and final overviews of the session or subject in class			0.654	0.661
Maintains an objective and respectful position with the students			0.612	0.439
Facilitate classroom communication			0.583	0.543
Attends and response clearly to questions asked in the class			0.521	0.582
Eigenvalues	8.299	4.413	1.255	
% of variance	34.58	18.39	5.229	

Class Size Scale Component Loadings for the Rotated Components

	Component loadings	
Items	1	Communalities
One-on-one time with students	0.735	0.527
More differentiation of instruction	0.725	0.597
Easier to divide class into small groups	0.717	0.543
Ease to use group instruction	0.686	0.454
Ease to watch all students	0.673	0.491
Ease to manage student's behaviour	0.656	0.516
More student's freedom	0.598	0.428
Ease to monitor groups	0.583	0.537
Ease of providing individualized instructions	0.422	0.526
Eigenvalues	4.307	
% variance	47.85	

Appendix B: PLS-SEM Assessment Results of Measurement Model

		Convergent validity			Internal consistency reliability	
		Loadings	Indicator reliability	AVE	Composite reliability Pc	Cronbach's alpha
Latent variable	Indicators	> 0.60	> 0.40	> 0.50	> 0.70	0.70-0.90
Class size				0.52	0.896	0.868
	Class2	0.768	0.59			
	Class3	0.757	0.573			
	Class4	0.725	0.525			
	Class5	0.78	0.608			
	Class6	0.641	0.41			
	Class7	0.714	0.509			
	Class8	0.73	0.532			
	Class9	0.643	0.413			
Communication skills				0.557	0.91	0.887
	Comm1	0.793	0.628			
	Comm2	0.755	0.57			
	Comm3	0.781	0.609			
	Comm4	0.734	0.538			
	Comm5	0.754	0.568			
	Comm6	0.717	0.514			
	Comm7	0.724	0.524			
	Comm8	0.711	0.505			
Creativity skills				0.543	0.892	0.859
	Crit1	0.722	0.521			
	Crit2	0.757	0.573			
	Crit4	0.653	0.426			
	Crit5	0.73	0.53			
	Crit6	0.756	0.571			
	Crit7	0.766	0.586			
	Crit8	0.767	0.588			
Commitment to duty				0.54	0.921	0.907
	Duty1	0.745	0.555			
	Duty11	0.689	0.474			
	Duty12	0.705	0.497			
	Duty13	0.721	0.519			
	Duty2	0.692	0.478			
	Duty3	0.716	0.512			
	Duty4	0.777	0.603			
	Duty5	0.701	0.491			
	Duty6	0.79	0.624			
	Duty8	0.803	0.644			
Lifelong learning				0.732	0.891	0.817
	Life1	0.898	0.806			

		Convergent validity			Internal consistency reliability	
		Loadings	Indicator reliability	AVE	Composite reliability Pc	Cronbach's alpha
Latent variable	Indicators	> 0.60	> 0.40	> 0.50	> 0.70	0.70-0.90
	Life2	0.851	0.724			
	Life3	0.816	0.665			
Delivering lesson				0.568	0.886	0.881
	TPDEV1	0.722	0.521			
	TPDEV2	0.708	0.501			
	TPDEV3	0.699	0.488			
	TPDEV4	0.649	0.421			
	TPDEV6	0.952	0.906			
Planning lesson				0.56	0.861	0.852
	TPPLAN4	0.631	0.401			
	TPPLAN5	0.826	0.682			
	TPPLAN6	0.654	0.427			
	TPPLAN7	0.93	0.864			
	TPPLAN8	0.683	0.466			
Results				0.583	0.907	0.882
	TPRESU1	0.781	0.609			
	TPRESU2	0.767	0.588			
	TPRESU3	0.84	0.705			
	TPRESU4	0.797	0.635			
	TPRESU5	0.743	0.552			
	TPRESU6	0.727	0.528			
	TPRESU7	0.679	0.461			
Teamwork skills				0.578	0.905	0.878
	Team2	0.803	0.644			
	Team3	0.82	0.672			
	Team4	0.747	0.558			
	Team5	0.714	0.509			
	Team6	0.708	0.501			
	Team7	0.758	0.574			
	Team8	0.765	0.585			