Validation of Modified Soft Skills Assessment Instrument (MOSSAI) for use in Nigeria

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Abstract

It has become an accepted norm nearly all over the globe to teach and assess soft skills. However, in Nigeria, it is an emerging area of interest that needs to be addressed squarely. In the light of the fore-going this study intends to validate a Modified version of Assessing Soft Skills (MASS) (an instrument that was developed and used by twenty European researchers from five countries), for use in the Nigeria setting. Thus, it was administered on a sample randomly selected from the northern and southern parts of Nigeria. The design for the study was survey. The 15-point instrument was administered on 600 participants each from the Northern and Southern parts of Nigeria. This instrument also includes method for teaching and assessing soft skills. The resulting data were analyzed using factor analysis for section B of the instrument, mean and standard deviation for sections C and D. Result shows that the soft skills needed for enhanced performances in workplace are teachable and examinable in Nigerian educational system. It is therefore recommended that the examining bodies should consider adapting the instrument for use in Sub-Saharan Africa.

Keywords: Soft Skills, Teaching of Soft Skills, Soft Skills Assessment, and Strategies for Assessing Soft Skills.

Introduction

There is no doubt that there are skills and abilities necessary for success in life. Such skills and behavioral competences are often latent in nature yet they are required in successful life endeavour. Hence, the term "soft skills" is used to differentiate them from technical or hard skills which could be acquired from formal academic settings. Curtis (2010) and Talavera & Perez-Gonzalez (2007) described Soft Skills as skills or abilities individuals need in order to achieve success in life, within the context of their socio-cultural milieu, through adaptation to, shaping of, and selection of environments. To Kechagias (2011), soft skills are intra and inter-personal or socio-emotional skills, essential for personal development, social participation and workplace success. They include such skills as ability to work on multi-disciplinary teams, communication, cultural awareness and expression, diligence, adaptability and honesty among others.

For Bunk (1994), the typology of soft skills could be explained from three major perspectives. These include the capacity for social adaptation, a disposition for cooperation, and team spirit while Boyatizis, Goleman & Rhee (2000) assert that these skills could be summarized into a series of twenty (20) skills which are categorized into four general blocks: emotional self-awareness, self-management or self-government (self-control), social awareness (empathy), and management of social relations skills. This typology was later reviewed by Petrides & Furnham (2001) and Goleman (2006) with a list of fifteen (15) most important socio-emotional dimensions of soft skills which include adaptability, assertiveness, emotional assessment of oneself and of others, emotional expression, the emotional management of others, self-esteem, self-motivation, social skill, stress management, empathy, happiness and optimism.

The importance of such skills in personal development for effective performance of one's task has necessitated the advocacy for the teaching and assessing of soft skills in a formal school setting. Discussing the teaching of soft skills, two different schools of thought were identified by Kechagias (2011). These are the 'generalists' and the 'specifists'. To the generalists, soft skills are seen as generic which can be taught separately from content and applied to any discipline. However to the specifists, soft skills could not be taught as one-shot inoculation of skill development but to be embedded into each course or subject since knowledge is fundamentally situated. These schools of thought are mirrored after the two approaches for teaching soft skills – Built-in or Integrated Approach and Bolted-on or Separate Approach as explained by Dawe (2002: 31). In consonance with these approaches, twenty European researchers (3 from UK, 5 from Greece, 4 from Sweden, 3 from Romania and 5 from Netherland) described the teaching approaches as Autonomous Teaching or Stand-Alone Approach and Intermixed Teaching or Embedded Approach.

A fifteen-item soft skills assessment instrument was developed by the twenty European researchers which has formed the basis for the assessment of soft skills in Europe. The fifteen-item soft skills assessment include: manners, ownership of tasks, attendance, motivation, professionalism, work output, conduct in workplace, time keeping, verbal communication, organization/planning, team working/respect, helping others, conscientiousness, ability to ask for help and adaptability/flexibility.

Statement of Problem

Despite the popularity of teaching and assessment of soft skills in the Western world, the

formalization of the concept in African school setting is yet to be embraced. Some African scholars see soft skills as too inherent to be teachable and examinable while others believe they are teachable but not examinable. Another impediment to the formalization of socioemotional skills education has to do with appropriate methods for teaching and assessing soft skills. This paper is therefore aimed at seeking the stakeholders' views about the appropriate methods for teaching and assessing soft skills in Nigerian educational system. This paper, therefore validated a modification of the instrument developed by the European researchers for the measuring and assessing soft skills in Europe and also investigated its usability in the Nigerian context.

Research Questions

In order to address the problem identified about the beliefs of African educational researchers, the following questions have been raised as the basis for this study:

- 1. What is the exploratory factor model **of** the Modified Assessment of Soft Skills (MASS) instrument?
- 2. Is the MASS adaptable to the teaching and assessment methods used in Nigerian Schools?

Methodology

The study was designed as a survey. The population of the study was made up of teaching personnel from both the private and public schools registered by National Business and Technical Examinations Board (NABTEB), Nigeria. Multi-stage sampling technique was adopted in selecting 1200 respondents for this study. Out of six geo-political zones in Nigeria, four were randomly selected - Two geopolitical zones each from northern and southern parts. Two States were randomly selected from each of the four geopolitical zones. In each of the States, eight schools of both public and private were randomly selected. Each school has 25 participants randomly selected. Thus, a total of forty-eight schools were used comprising thirty–five (35) technical schools (public) and thirteen (13) private schools of 825 and 375 participants respectively. Thus, there were 683 male teachers and 517 female teachers altogether.

Instrumentation: Based on the 15-point Measuring and Assessment of Soft Skills (MASS) designed by 20 European researchers as earlier mentioned (See appendix I for details), the researchers of this study drafted 63 variables to form the Modified Soft Skills Assessment Instrument (MOSSAI) for the use of Nigeria (See appendix II for details). Section A of the new MASS has to do with personal data of the respondent in terms of name of school and gender. The 63 variables served as section B of new MOSSAI for this study while sections C and D focused on methods of teaching and assessing soft skills respectively. The statistics employed for analysis of the data obtained from section B of the instrument was Exploratory Factor Analysis (EFA) for validity coupled with cronbach alpha for reliability sake. The initial reliability of the 63 variables was 0.968 which undergone factor analysis process with orthogonal rotation to produce 5-factor model of 50 content areas for final version (See Appendix III for details) The reliability of the final version was 0.961. The names given to the subscales of the 5-factor model with their reliability coefficients are commitment to duty (0.908), attending to responsibilities (0.925), adaptability (0.901), resources management skills (0.801) and motivation (0.791). For sections C and D of the new MASS instrument, mean and standard deviation were used to analyse the responses of the respondents. Data from a mean of 2.5 and above were accepted while others below 2.5 were rejected.

Results and Discussion

Research Question One

What is the exploratory factor model of the Modified Assessment of Soft Skills (MASS) instrument?

| Varia- | | Extrac- | Varia- | | Extrac- | Varia- | | Extrac |
|--------|---------|---------|--------|---------|---------|--------|---------|--------|
| ble | Initial | tion | ble | Initial | tion | ble | Initial | -tion |
| var1 | .560 | .629 | var22 | .471 | .384 | var43 | .546 | .554 |
| var2 | .356 | .330 | var23 | .535 | .474 | var44 | .488 | .538 |
| var3 | .402 | .358 | var24 | .386 | .337 | var45 | .552 | .517 |
| var4 | .405 | .364 | var25 | .463 | .448 | var46 | .560 | .554 |
| var5 | .457 | .416 | var26 | .429 | .389 | var47 | .539 | .555 |
| var6 | .467 | .466 | var27 | .516 | .613 | var48 | .465 | .466 |
| var7 | .398 | .365 | var28 | .538 | .586 | var49 | .582 | .531 |
| var8 | .460 | .460 | var29 | .411 | .380 | var50 | .565 | .526 |
| var9 | .426 | .404 | var30 | .485 | .514 | var51 | .588 | .599 |
| var10 | .406 | .384 | var31 | .500 | .608 | var52 | .589 | .647 |
| var11 | .593 | .842 | var32 | .524 | .566 | var53 | .531 | .580 |
| var12 | .405 | .396 | var33 | .465 | .440 | var54 | .507 | .493 |
| var13 | .500 | .577 | var34 | .535 | .566 | var55 | .579 | .577 |
| var14 | .468 | .566 | var35 | .628 | .681 | var56 | .532 | .550 |
| var15 | .432 | .455 | var36 | .564 | .576 | var57 | .521 | .514 |
| var16 | .399 | .334 | var37 | .579 | .582 | var58 | .486 | .469 |
| var17 | .508 | .491 | var38 | .591 | .592 | var59 | .525 | .512 |
| var18 | .531 | .466 | var39 | .513 | .499 | var60 | .577 | .590 |
| var19 | .535 | .448 | var40 | .512 | .448 | var61 | .623 | .614 |
| var20 | .805 | .864 | var41 | .507 | .443 | var62 | .606 | .555 |
| var21 | .443 | .411 | var42 | .562 | .542 | var63 | .812 | .907 |

 Table 1a: Table Showing the Communalities of the Extracted Factors

Extraction method: Maximum likelihood

Table 1b: KMO and Bartlett's Test

| Kaiser-Meyer-Olkin | n Measure of Sampling Adequacy. | .965 |
|-------------------------------|---------------------------------|-----------|
| Bartlett's Test of Sphericity | Approx. Chi-Square | 40692.753 |
| • | Df | 1953 |
| | Sig. | .000 |

| | | | | Extracti | on Sums of | Squared | Rotation Sums of Squared | | |
|--------|--------|-------------|----------|----------|------------|----------|--------------------------|----------|----------|
| Factor | Ini | tial Eigenv | alues | | Loadings | - | | Loadings | _ |
| | | % of | Cummu- | | % of | Cummu | | % of | Cummu- |
| | Total | Variance | lative % | Total | Variance | lative % | Total | Variance | lative % |
| 1 | 21.416 | 33.994 | 33.994 | 20.495 | 32.531 | 32.531 | 7.784 | 12.356 | 12.356 |
| 2 | 3.234 | 5.133 | 39.127 | 2.088 | 3.314 | 35.845 | 7.047 | 11.185 | 23.541 |
| 3 | 2.525 | 4.008 | 43.135 | 2.307 | 3.661 | 39.506 | 4.827 | 7.662 | 31.204 |
| 4 | 1.649 | 2.617 | 45.753 | 1.611 | 2.557 | 42.063 | 2.466 | 3.914 | 35.118 |
| 5 | 1.564 | 2.483 | 48.236 | 1.427 | 2.265 | 44.329 | 1.915 | 3.040 | 38.158 |
| 6 | 1.332 | 2.115 | 50.351 | .978 | 1.553 | 45.882 | 1.791 | 2.842 | 41.000 |
| 7 | 1.295 | 2.056 | 52.407 | .907 | 1.439 | 47.321 | 1.617 | 2.566 | 43.566 |
| 8 | 1.185 | 1.881 | 54.288 | .833 | 1.322 | 48.644 | 1.549 | 2.458 | 46.025 |
| 9 | 1.123 | 1.782 | 56.070 | .687 | 1.091 | 49.735 | 1.541 | 2.446 | 48.471 |
| 10 | 1.091 | 1.731 | 57.801 | .641 | 1.018 | 50.753 | 1.332 | 2.114 | 50.585 |
| 11 | 1.044 | 1.657 | 59.458 | .568 | .902 | 51.655 | .674 | 1.070 | 51.655 |
| 12 | .966 | 1.533 | 60.991 | | | | | | |
| 13 | .934 | 1.482 | 62.473 | | | | | | |
| 14 | .858 | 1.363 | 63.836 | | | | | | |
| 15 | .832 | 1.321 | 65.156 | | | | | | |
| 16 | .807 | 1.281 | 66.437 | | | | | | |
| 17 | .791 | 1.256 | 67.693 | | | | | | |
| 18 | .745 | 1.183 | 68.876 | | | | | | |
| 19 | .713 | 1.132 | 70.008 | | | | | | |
| 20 | .703 | 1.116 | 71.124 | | | | | | |
| 21 | .699 | 1.110 | 72.233 | | | | | | |
| 22 | .691 | 1.096 | 73.330 | | | | | | |
| 23 | .652 | 1.035 | 74.365 | | | | | | |
| 24 | .629 | .998 | 75.362 | | | | | | |
| 25 | .625 | .992 | 76.355 | | | | | | |
| 26 | .603 | .957 | 77.311 | | | | | | |
| 27 | .589 | .935 | 78.246 | | | | | | |
| 28 | .576 | .914 | 79.160 | | | | | | |
| 29 | .570 | .905 | 80.065 | | | | | | |
| 30 | .550 | .874 | 80.938 | | | | | | |
| 31 | .532 | .844 | 81.782 | | | | | | |
| 32 | .522 | .829 | 82.611 | | | | | | |
| 33 | .513 | .814 | 83.425 | | | | | | |
| 34 | .494 | .784 | 84.209 | | | | | | |
| 35 | .485 | .770 | 84.979 | | | | | | |
| 36 | .483 | .767 | 85.746 | | | | | | |
| 37 | .474 | .753 | 86.499 | | | | | | |
| 38 | .472 | .749 | 87.248 | | | | | | |
| 39 | .449 | .713 | 87.961 | | | | | | |
| 40 | .438 | .695 | 88.657 | | | | | | |
| 41 | .413 | .655 | 89.312 | | | | | | |
| 42 | .409 | .649 | 89.960 | | | | | | |
| 43 | .396 | .628 | 90.588 | | | | | | |
| | | | | - | | | | | |

 Table 1c: Total Variance Explained

| 44 | .390 | .618 | 91.207 | | | |
|----|------|------|---------|--|--|--|
| 45 | .380 | .604 | 91.810 | | | |
| 46 | .374 | .593 | 92.403 | | | |
| 47 | .369 | .585 | 92.989 | | | |
| 48 | .347 | .550 | 93.539 | | | |
| 49 | .340 | .540 | 94.078 | | | |
| 50 | .330 | .524 | 94.602 | | | |
| 51 | .324 | .514 | 95.116 | | | |
| 52 | .321 | .509 | 95.625 | | | |
| 53 | .313 | .497 | 96.122 | | | |
| 54 | .299 | .474 | 96.596 | | | |
| 55 | .286 | .454 | 97.050 | | | |
| 56 | .282 | .447 | 97.497 | | | |
| 57 | .267 | .423 | 97.920 | | | |
| 58 | .263 | .417 | 98.338 | | | |
| 59 | .256 | .406 | 98.743 | | | |
| 60 | .245 | .390 | 99.133 | | | |
| 61 | .226 | .359 | 99.492 | | | |
| 62 | .215 | .341 | 99.833 | | | |
| 63 | .105 | .167 | 100.000 | | | |

Extraction Method: Maximum Likelihood.

Table 1d: Table Showing the Scree Plot



Table 1e: Table Showing the Rotated Factor Matrix

| | Facto | Factor | | | | | | | | | |
|-------|-------|--------|---|---|---|---|---|---|---|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| var6 | .626 | | | | | | | | | | |
| var8 | .593 | | | | | | | | | | |
| var17 | .589 | | | | | | | | | | |
| var23 | .571 | | | | | | | | | | |
| var18 | .567 | | | | | | | | | | |

| var9 var5 var7 var2 var21 var10 var25 var3 var4 var22 var4 var42 var44 var43 var46 var44 var43 var46 var42 var45 var46 var42 var45 var40 var47 var40 var41 var49 var48 var47 var40 var41 var49 var48 var51 var30 var38 var39 var55 var61 var50 var55 var61 var50 var55 var61 var50 var55 var61 var50 var55 var61 var50 var55 var61 var50 var58 var51 var50 var55 var61 var50 var55 var61 var50 var55 var61 var60 var55 var61 var60 var56 var57 var59 var58 var61 var60 var57 var59 var55 var61 var60 var57 var59 var51 var60 var55 var61 var60 var57 var59 var55 var61 var60 var57 var59 var55 var61 var60 var57 var59 var51 var60 var57 var50 var51 var60 var55 var61 var60 var57 var50 var50 var51 var60 var55 var60 var55 var60 var57 var50 var50 var57 var50 var50 var50 var50 var57 var50 var50 var50 var57 var50 var50 var57 var50 var57 var50 var50 var57 var50 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var50 var57 var59 var54 var52 var51 var50 var57 var59 var54 var52 var52 var51 var50 var57 var50 var57 var59 var54 var52 var52 var52 var57 var59 var54 var52 v | .564 .552 .547 .499 .494 .491 .490 .479 .465 .448 .446 .441 | .661 .649 .629 .622 .546 .533 .522 .478 .466 .459 .421 .403 | .596 .596 .595 .547 .545 .526 .494 | .720 .652 .608 .440 | .636 .612 .476 .410 | .682 .620 | .437 | | | .454 | |
|--|--|--|--|------------------------------|------------------------------|--------------|------|--|--|------|--|
|--|--|--|--|------------------------------|------------------------------|--------------|------|--|--|------|--|

| var35 | .420 | | | .566 | | | | |
|-------|------|------|--|------|------|------|------|--|
| var36 | .432 | | | .486 | | | | |
| var34 | .420 | | | .480 | | | | |
| var11 | | | | | .841 | | | |
| var1 | | | | | .714 | | | |
| var63 | | .412 | | | | .768 | | |
| var20 | | | | | | .746 | | |
| var52 | .417 | | | | | | .544 | |
| var53 | | | | | | | .520 | |
| | | | | | | | | |

Extraction Method: Maximum Likelihood

Rotation Method: Varimax with Kaiser Normalization

a. Rotation converged in 8 iterations.

| Table 1f: Table showing factor | loading for | rotated factors, | eigenvalues and | percentage |
|---------------------------------------|-------------|------------------|-----------------|------------|
| of the five-factor model in new | MASS | | | |

| Item No | | | Factor | | | Final Communality Estimate |
|---------|-----|-----|--------|---|---|-------------------------------|
| | 1 | 2 | 3 | 4 | 5 | |
| 1 | .63 | | | | | .466 |
| 2 | .59 | | | | | .460 |
| 3 | .59 | | | | | .491 |
| 4 | .57 | | | | | .474 |
| 5 | .57 | | | | | .466 |
| 6 | .57 | | | | | .448 |
| 7 | .56 | | | | | .404 |
| 8 | .55 | | | | | .416 |
| 9 | .55 | | | | | .365 |
| 10 | .50 | | | | | .330 |
| 11 | .50 | | | | | .411 |
| 12 | .49 | | | | | .384 |
| 13 | .49 | | | | | .448 |
| 14 | .48 | | | | | .358 |
| 15 | .47 | | | | | .364 |
| 16 | .45 | | | | | .384 |
| 17 | .45 | | | | | .337 |
| 18 | | .66 | | | | .334 |
| 19 | | .65 | | | | .538 |
| 20 | | .63 | | | | .554 |
| 21 | | .63 | | | | .554 |
| 22 | | .62 | | | | .542 |
| 23 | | .61 | | | | .517 |
| 24 | | .55 | | | | .555 |
| 25 | | .54 | | | | .448 |
| 26 | | .53 | | | | .443 |
| 27 | | .52 | | | | .531 |
| 28 | | .48 | | | | .466 |

| 29 | | .47 | | | | .599 |
|------------------------|--------|-------|-------|-------|-------|------|
| 30 | | .46 | | | | .526 |
| 31 | | .42 | | | | .582 |
| 32 | | .40 | | | | .592 |
| 33 | | | .60 | | | .499 |
| 34 | | | .60 | | | .577 |
| 35 | | | .60 | | | .614 |
| 36 | | | .59 | | | .590 |
| 37 | | | .55 | | | .550 |
| 38 | | | .55 | | | .514 |
| 39 | | | .55 | | | .512 |
| 40 | | | .53 | | | .493 |
| 41 | | | .49 | | | .555 |
| 42 | | | | .72 | | .469 |
| 43 | | | | .65 | | .608 |
| 44 | | | | .61 | | .566 |
| 45 | | | | .44 | | .514 |
| 46 | | | | | .64 | .440 |
| 47 | | | | | .61 | .566 |
| 48 | | | | | .48 | .577 |
| 49 | | | | | .41 | .455 |
| 50 | | | | | .64 | .396 |
| Eigen values | 21.416 | 3.234 | 2.525 | 1.649 | 1.564 | |
| Percentage of variance | 33.994 | 5.133 | 4.008 | 2.617 | 2.483 | |

Table 1a presents the table of communalities before and after extraction which indicate how much variance in each variable of this study is explained by the analysis. Table 1b shows Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy. As a measure of factorability, the KMO is 0.965. The Bartlett's test of Sphericity indicates that the data is probably factorable and here it is significant (p < .05). Table 1c depicts the total variance for factor solution in this study. The table presents the eigenvalues before extraction and after rotation to have sums of squared loadings and rotation sums of squared loadings respectively. In this study, the first eleven factors with eigenvalues greater than 1 accounted for 51.7% Table 1d presents the Scree plot which is the graph of how the eigenvalues coordinates with the factors. Table 1e shows rotated factor matrix while table 1f presents factor loading for rotated factors, eigenvalues and percentage of the five-factor model in new MOSSAI

Discussion:

Factor analysis was conducted for this study to determine what if any underlying common psychological constructs exist for measures in the Modified Soft Skills Assessment Instrument (MOSSAI) based on the responses of the sampled participants for this study. Certain steps have been taken by the researchers to achieve this golden objective. Apart from the sample size, factorability of the correlation coefficient and tests of KMO Measure of Sampling of Adequacy and Bartlett's test of Sphericity and communalities for suitability of data in this study, the number of reliable and interpretable factors to retain was considered by means of eigenvalues, amount of total variance, scree plot, residuals and assessment of model fit. Kerlinger and Lee (2000) and Mertler and Vernnata (2005) agree with the steps for retaining reliable factors. They assert that only those components (factors) whose eigenvalues are greater than 1 should be retained. 11 variables have eigen values that exceed the criterion value of 1.00. The feasibility of at least 70% of the total variability was not attained in this study due to the sample size. However, the total variance accounted for was 51.7%. The Scree plot at its sharp bent in relation to eigen values produced was inspected coupled with rotated factor matrix yielded a 5-factor result in this study. As a function of factor analysis, the correlation coefficient between observed and reproduced coefficients determines the residual for achieving the fit of the model created by the factors. Due to the enlargement of the table of reproduced coefficient, the footnote below it is an indication to know whether the model is fit. For this study therefore, the SPSS declares that there are 48 (2.0%) nonredundant residuals with absolute values greater than 0.05. By implication, the model for this study has a good fit. In the interpretation of the identified five-factor, the researchers named them as commitment to duty, attending to responsibilities, adaptability, resources management skills and motivation Having interpreted the five-factor, cronbach alpha was calculated to estimate internal consistency and reliability of the scores in the five factors.

Research Question Two

Is the MASS adaptable to the teaching and assessment methods used in Nigerian Schools?

| S/N | METHODS OF TEACHING | | STANDARD | REMARK |
|-----|-----------------------|------|-----------|--------|
| | SOFT SKILLS | MEAN | DEVIATION | |
| 1. | Direct instruction | 2.52 | .603 | Accept |
| 2. | Demonstration method | 2.57 | .574 | Accept |
| 3. | Lecture method | 2.19 | .747 | Reject |
| 4. | Discussion method | 2.72 | .699 | Accept |
| 5. | Simulation method | 2.50 | .625 | Accept |
| 6 | Rote memorization | 2.16 | .759 | Reject |
| .7. | Self discovery method | 2.52 | .656 | Accept |
| 8. | Questioning method | 2.51 | .639 | Accept |
| 9. | Interviewing method | 2.54 | .644 | Accept |
| 10. | Project approach | 2.52 | .661 | Accept |
| 11. | Mapping method | 2.11 | .688 | Reject |
| 12. | Cooperative learning | 2.54 | .622 | Accept |
| 13. | Reflection | 2.51 | .662 | Accept |
| 14. | Pictorial method | 2.38 | .681 | Reject |

Table 2a: Mean rating and standard deviation of methods of teaching soft skills

Table 2b: Mean rating and standard deviation of methods of assessing soft skills

| S/N | METHODS OF ASSESSING | | STANDARD | REMARK |
|-----|----------------------|------|-----------|--------|
| | SOFT SKILLS | MEAN | DEVIATION | |
| 1. | Objective tests | 2.53 | .616 | Accept |
| 2. | Essay tests | 2.55 | .594 | Accept |
| 3. | Practical tests | 2.59 | .598 | Accept |
| 4. | Speed tests | 2.10 | .726 | Reject |
| 5. | Checklists | 2.51 | .660 | Accept |

| 6. | Questionnaires | 2.53 | .674 | Accept |
|-----|----------------|------|------|--------|
| 7. | Interviews | 2.25 | .693 | Reject |
| 8, | Rating scales | 2.52 | .656 | Accept |
| 9. | Observations | 2.55 | .635 | Accept |
| 10. | Portfolios | 2.04 | .733 | Reject |
| 11. | Assignments | 2.47 | .644 | Accept |

Table 2a above depicts the responses of the respondents toward appropriate methods of teaching soft skills in the new MASS instrument. Out of the fourteen perceived methods, only ten were approved by the respondents for this study. In terms of rating, the highest rated method of teaching is the discussion method with a mean of 2.71 and standard deviation of 0.699 while the least rated one is the simulation method which has a mean of 2.50 and standard deviation of 0.625. From Table 2b, out of eleven perceived methods of assessing soft skills, eight received acceptance. Practical tests serve as the most rating assessment method with a mean of 2.59 and standard deviation of 0.598 while the least among the ratings is assignment which has a mean of 2.47 and standard deviation of 0.644

The findings of this study revealed agreement among the respondents on certain appropriate teaching and assessment methods for soft skills in the new MASS instrument. Such teaching methods include: Discussion, demonstration, interviewing, direct instruction, self discovery, project approach, cooperative learning, questioning, reflection and simulation. As latent traits in an individual for achieving success in life, soft skills require different teaching methods for individuals to be aware of themselves.

In the same vein, assessment methods agreed upon are practical tests, essay tests, observations, objective tests, questionnaires, rating scales, checklists, and assignments These assessment methods agree with the study of Curtis (2004, 2010) who categorizes soft skills assessment methods into standardized assessment (multiple-choice or short-structured items) are provided for examinees' responses), common assessment tasks (where tasks not tests are designed to provide opportunities for examinees to demonstrate and/or develop constructs intended to be assessed), performance assessments (a type of testing that calls for demonstration of understanding and skill in applied, procedural or open-ended settings), teacher/holistic judgment (where thorough, frequent and close observation of the teacher or supervisor is required) and portfolio assessment (where individual examinee is made to select and aggregate the evidence of his/her own achievement of particular skills).

Conclusion

In this paper efforts have been made to examine the teach-ability and examinability of modified soft skills in Nigeria. The results of this study had shown that out of the fifteen identified soft skills by the five European countries, only five are suitable to be taught and examined in Nigerian context. These include commitment to duty, attending to responsibilities, adaptability, resources management skills and motivation. The study was able to identify fifty content areas that can be taught under the five concepts.

Based on the findings from this study, these five skills have been proven teachable using such methods as direct instruction, demonstration, discussion, simulation, self discovery, questioning, interviewing, project, cooperative learning and reflection methods. In the same manner, the study had revealed that the five soft skills can be examined using objective tests,

essay tests, practical tests, checklists, questionnaires, rating scales, observations and assignments. Other methods including speed tests, interview and portfolios are inappropriate and unsuitable for the examination of soft skills in Nigerian school system.

Recommendation

The design and development of Modified Soft Skills Assessment materials on the five teachable and examinable areas should be given a considerable attention while the Nigerian Educational Research and Development Council (NERDC) should design curriculum for the subject covering the fifty content areas identified in this study. Following these arrangements, the Nigerian schools as well as others in Sub-Saharan Africa are encouraged to start teaching and assessment of the subject on stand-alone basis.

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SOFT SKILLS INCLUDED IN ASSESSMENT OF SOFT SKILLS (MASS) MATERIALS BY 20 EUROPEANS RESEARCHERS

| Soft Skill | Other words that mean the same thing | Examples of when this soft skill is used |
|------------------------------|---|---|
| Manners | Politeness, consideration, courtesy | Saying thank you, holding doors open for others, asking permission to do things etc |
| Ownership of tasks | Responsibility, duty, dependability | Making sure tasks are done properly, turning up on time for meetings, working in partnership with others and doing your role so they can do theirs etc |
| Attendance | Turning up, coming in, appearing | Arriving on time for meetings and for work. Making sure you keep people informed regarding your attendance or availability. |
| Motivation | Incentive, inspiration, drive, impulse | Taking on new challenges, working hard to achieve goals, thinking of new ways to do things |
| Professionalism | Competent, skilful, dedicated | Working to a high standard, being consistent in attitude (not allowing emotions or personalities to influence you) |
| Work output | Activity, productivity, production | Meeting deadlines and standards for work. Producing products to target. |
| Conduct in workplace | Behaviour, attitude, maturity | Respecting others, not playing games when you should be working etc |
| Timekeeping | On time, not late | Arriving for work or meetings on time, leaving at the right time |
| Verbal Communication | Talking, Consulting, meetings, discussing | Using the right tone of voice and words when speaking with colleagues etc |
| Organisation/ planning | Preparation, scheduling, arranging | Having all required resources to hand, thinking jobs through, arriving on time, meeting deadlines etc |
| Team-working/ Respect | Esteem, valuing others, helping others, consideration | Working well together on a task, making best use of your skills and the skills of others. Acknowledge the status of others and act accordingly |
| Helping others | Supporting, offering, training | Giving up some of your time to support those who are struggling or need help to meet a deadline |
| Conscientiousness | Careful, meticulous, thorough, hard working | Paying attention to detail, accurate work, making sure you do what you are paid to do |
| Ability to ask for help | Admitting own limitations, confidence, courage | Asking colleagues to show you how to do something or to help you complete a task on time etc |
| Adaptability/ Flexibility | Compliance, accepting change | Taking on new challenges, accepting changes to rules and conditions, staying late to finish urgent tasks etc |

Source: Culled from teaching and assessing soft skills by K. Kechagias (2011) pages 83 and 84

APPENDIX II: ORIGINAL DRAFT

NATIONAL BUSINESS AND TECHNICAL EXAMINATIONS BOARD (NABTEB) BENIN CITY

Dear Respondent,

This instrument is designed to elicit relevant information from you on "Validation of Modified Soft Skills Assessment (MOSSAI) for use in Nigeria. The essence is to provide useful information for decision making on inclusion of soft skills in the school curriculum.. The instrument is purely for academic purposes. Please note that your responses would be treated with utmost confidentiality. Thanking you in anticipation for your favourable response.

SECTION A (PERSONAL PROFILE)

Please respond by placing a tick $(\sqrt{})$ where appropriate.

Name of School.
 Type of School: Public Private
 Gender Male Female

SECTION B Below are statements that address some selected soft skills which you are to respond to in the form of rating scale with Very Teachable (VT), Teachable (T), Fairly Teachable (FT) and Not Teachable (NT). Please read carefully each of the under-listed statements and respond by placing a tick (\checkmark) that best suits each of the statement along the continuum.

| S/N | SOFT SKILLS | VT | Т | F | NT |
|-----|------------------------------------|----|---|---|----|
| 1. | Readily accepting responsibilities | | | | |
| 2. | Zealous in performing one's duties | | | | |
| 3. | Creativity in the job | | | | |
| 4. | Delegating duties to right persons | | | | |
| 5. | Diligence in supervision | | | | |
| 6. | Punctuality at work | | | | |
| 7. | Enthusiasm at work | | | | |
| 8. | Moral integrity on the job | | | | |
| 9. | Devotion to duty | | | | |
| 10 | Eager to learn | | | | |
| 11. | Goals setting | | | | |
| 12. | Job security | | | | |
| 13. | Job enlargement | | | | |
| 14. | Job rotation | | | | |
| 15. | Reinforcement | | | | |
| 16. | Mastery of job content | | | | |
| 17. | Being readily available at work | | | | |
| 18. | Efficiency | | | | |
| 19. | Effectiveness | | | | |
| 20. | Time management | | | | |

| 21. | Good work ethics | | |
|-----|--|--|--|
| 22. | Observance of school rules and regulations | | |
| 23. | Loyalty to duty | | |
| 24. | Patience at work | | |
| 25. | Contentment | | |
| 26. | Speaking | | |
| 27. | Reading | | |
| 28. | Writing | | |
| 29. | Body language | | |
| 30. | Quantity of resources | | |
| 31. | Quality of resources | | |
| 32. | Allocation of resources | | |
| 33. | Implementation | | |
| 34. | Supervision | | |
| 35. | Coordination | | |
| 36. | Evaluation | | |
| 37. | Feedback | | |
| 38. | Tolerance | | |
| 39. | Cooperation | | |
| 40. | Leadership style | | |
| 41. | Followership traits | | |
| 42. | Administrative support | | |
| 43. | Operational support | | |
| 44. | On the job training | | |
| 45. | Mentoring | | |
| 46. | Providing feedback | | |
| 47. | Insightfulness | | |
| 48. | Recall | | |
| 49. | Turn challenges to opportunities | | |
| 50. | Turn weaknesses to strength | | |
| 51. | Seek for improved knowledge | | |
| 52. | Seek for advice | | |
| 53. | Polite requests | | |
| 54. | Confidence in the ability of others | | |
| 55. | Embracing changes | | |
| 56. | Observance of ser goals | | |
| 57. | Observance of new rules and regulations at workplace | | |
| 58. | Embracing new knowledge | | |
| 59. | Perseverance | | |
| 60 | Fact finding | | |
| 61. | Carefulness | | |
| 62. | Diligence | | |
| 63. | Admitting one's own limitations | | |
| | | | |

SECTION C

Below are suggested methods of teaching the above selected soft skills. Please indicate in the form of Very appropriate (VA), Appropriate (A), Not Appropriate (NA).

| S/N | SUGGESTED METHODS OF TEACHING SOFT SKILLS | VA | Α | NA |
|-----|---|----|---|----|
| 1. | Direct instruction | | | |
| 2. | Demonstration method | | | |
| 3. | Lecture method | | | |
| 4. | Simulation method | | | |
| 5. | Discussion method | | | |
| 6. | Rote momorisation | | | |
| 7. | Self discovery method | | | |
| 8. | Questioning method | | | |
| 9. | Interviewing method | | | |
| 10. | Project method | | | |
| 11. | Mapping method | | | |
| 12. | Cooperative learning | | | |
| 13. | Reflection | | | |
| 14. | Pictorial method | | | |

SECTION D

Read carefully the suggested assessment methods by which the above selected soft skills can be assessed. Please indicate in the form of Very appropriate (VA), Appropriate (A), Not Appropriate (NA).

| S/N | SUGGESTED ASSESSMENT METHODS | VA | Α | NA |
|-----|------------------------------|----|---|----|
| 1. | Objective tests | | | |
| 2. | Essay tests | | | |
| 3. | Practical tests | | | |
| 4. | Speed tests | | | |
| 5. | Checklists | | | |
| 6. | Questionnaires | | | |
| 7 | Interviews | | | |
| 8. | Rating scales | | | |
| 9. | Observations | | | |
| 10. | Portfolio | | | |
| 11. | Assignments | | | |

APPENDIX III: FINAL VERSION

NATIONAL BUSINESS AND TECHNICAL EXAMINATIONS BOARD (NABTEB) BENIN CITY

Dear Respondent,

This instrument is designed to elicit relevant information from you on "Validation of Modified Assessment of Soft Skills (MASS) Instrument for use in Nigeria The essence is to provide useful information for decision making on inclusion of soft skills in

the school curriculum. The instrument is purely for academic purposes. Please note that your responses would be treated with utmost confidentiality. Thanking you in anticipation for your favourable response.

SECTION A (PERSONAL PROFILE)

Please respond by placing a tick (\checkmark) where appropriate.

Male

3.

Gender

1. Name of School..... 2. Type of School: Public 🔲 Private

Female

SECTION B Below are statements that address some selected soft skills which you are to respond to in the form of rating scale with Very Teachable (VT), Teachable (T), Fairly Teachable (FT) and Not Teachable (NT). Please read carefully each of the under-listed statements and respond by placing a tick $(\sqrt{})$ that best suits each of the statement along the continuum.

| S/N | SOFT SKILLS | VT | Т | F | NT |
|-----|--|----|---|---|----|
| Α | Commitment to duty | | | | |
| 1. | Punctuality at work | | | | |
| 2 | Moral integrity on the job | | | | |
| 3. | Being readily available at work | | | | |
| 4 | Loyalty to duty | | | | |
| 5. | Efficiency | | | | |
| 6. | Effectiveness | | | | |
| 7. | Devotion to duty | | | | |
| 8. | Diligence in supervision | | | | |
| 9. | Enthusiasm at work | | | | |
| 10. | Zealous in performing one's duties | | | | |
| 11 | Good work ethics | | | | |
| 12. | Eager to learn | | | | |
| 13. | Contentment | | | | |
| 14. | Creativity in the job | | | | |
| 15. | Delegating duties to right persons | | | | |
| 16. | Observance of school rules and regulations | | | | |
| 17. | Patience at work | | | | |
| 18. | Mastery of job content | | | | |
| B | Attending to responsibilities | | | | |
| 19. | On the job training | | | | |
| 20. | Operational support | | | | |
| 21. | Providing feedback | | | | |
| 22 | Administrative support | | | | |
| 23. | Mentoring | | | | |
| 24. | Insightfulness | | | | |
| 25. | Leadership style | | | | |
| 26. | Followership traits | | | | |
| 27. | Turn challenges to opportunities | | | | |

| 28. | Recall | | |
|-----|--|--|--|
| 29. | Seek for improved knowledge | | |
| 30. | Turn weaknesses to strength | | |
| 31. | Feedback | | |
| 32. | Tolerance | | |
| 33. | Cooperation | | |
| С. | Adaptability | | |
| 34. | Embracing changes | | |
| 35. | Carefulness | | |
| 36. | Fact finding | | |
| 37. | Observance of set goals | | |
| 38. | Observance of new rules and regulations at workplace | | |
| 39. | Perseverance | | |
| 40. | Confidence in the ability of others | | |
| 41. | Diligence | | |
| 42. | Embracing new knowledge | | |
| D. | Resources management skills | | |
| 43. | Quantity of resources | | |
| 44. | Quality of resources | | |
| 45. | Allocation of resources | | |
| 46. | Implementation | | |
| Е. | Motivation | | |
| 47. | Job rotation | | |
| 48. | Job enlargement | | |
| 49. | Reinforcement | | |
| 50. | Job security | | |

SECTION C

Below are suggested methods of teaching the above selected soft skills. Please indicate in the form of Very appropriate (VA), Appropriate (A), Not Appropriate (NA).

| S/N | SUGGESTED METHODS OF TEACHING SOFT SKILLS | VA | А | NA |
|-----|---|----|---|----|
| 1. | Direct instruction | | | |
| 2. | Demonstration method | | | |
| 3. | Lecture method | | | |
| 4. | Simulation method | | | |
| 5. | Discussion method | | | |
| 6. | Rote momorisation | | | |
| 7. | Self discovery method | | | |
| 8. | Questioning method | | | |
| 9. | Interviewing method | | | |
| 10. | Project method | | | |
| 11. | Mapping method | | | |
| 12. | Cooperative learning | | | |
| 13. | Reflection | | | |
| 14. | Pictorial method | | | |

SECTION D

Read carefully the suggested assessment methods by which the above selected soft skills can be assessed. **Please indicate in the form of Very appropriate (VA), Appropriate (A), Not Appropriate (NA**).

| S/N | SUGGESTED ASSESSMENT METHODS | VA | Α | NA |
|-----|------------------------------|----|---|----|
| 1. | Objective tests | | | |
| 2. | Essay tests | | | |
| 3. | Practical tests | | | |
| 4. | Speed tests | | | |
| 5. | Checklists | | | |
| 6. | Questionnaires | | | |
| 7 | Interviews | | | |
| 8. | Rating scales | | | |
| 9. | Observations | | | |
| 10. | Portfolio | | | |
| 11. | Assignments | | | |