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Organizational Communication Efficiency Assessment Scale for Senior College Students: A Factor Analysis

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Abstract

The study developed a scale that will measure the organizational communication efficiency of senior college students. It sought to determine what the composition is and how valid and reliable the organizational communication efficiency assessment scale is in its form. The instrument was face-validated, and Exploratory Factor Analysis (EFA) was applied to the data gathered from 400 respondents through SPSS, with principal components extracted and rotated using Varimax. Using de Vaus' standard metric of r=0.30 for item-analysis correlation, findings revealed that 11 out of 19 items show a stronger correlation with others under subscale Interactive Communication (IC); 22 out of 31 for Confidence and Assertiveness (CA) and 11 out of 20 for Technological Awareness (TA). The reliability coefficient index also showed Cronbach's α values of .724, .872 and .833 for IC, CA and TA respectively, with internal data consistencies described as Acceptable, Good and Good. The scale is valid and reliable in its form.

Keywords: Organizational communication, Scale, Assessment, Exploratory, Factor analysis.

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INTRODUCTION

In today's global business environment, effective organizational communication-internal and external - has a significant impact on an organization's success. Reasons for the increasing importance of organizational communication are many with the world of work becoming more complex. More than ever before, knowledge, learning, and innovation are critical to an organization's sustainability, Further, with employees often being widely distributed geographically, communication technologies and networks are essential for the accomplishment of a company's strategy.

Therefore, effective organizational communication is critical to actively engage employees, foster trust, and respect, and promote productivity; a complex process that is vital to any organization's success in a dynamic global marketplace (Baker, 2002; Berger, 2008).

Organizational communication encompasses many aspects. It spans a wide range, from formal and informal internal communication practices to externally directed communications (media, public, inter-organizational (Zaumane, 2017). Several researchers (Jablin & Putnam, 2001; Cees & Fombrun, 2007; Hargie & Tourish, 2009; Draft & Lengel, 1998 as cited in Schwartz and Gimbel, 2000; Rajhans, 2012) pointed out that communication is at the heart of organizational performance. Organizational communication includes marketing, public relations, investor relations, corporate advertising and environmental communication. In the largest sense, it encompasses the organization's initiatives that demonstrate social responsibility and good citizenship.

Figure 1 presents a variant of the interactive communication model. This elaborates Shannon's model with the cybernetic concept of feedback (Weiner, 1948, 1986, as cited in Foulger, 2004), often (as is the case in Figure 1) without changing any other element of Shannon's model.

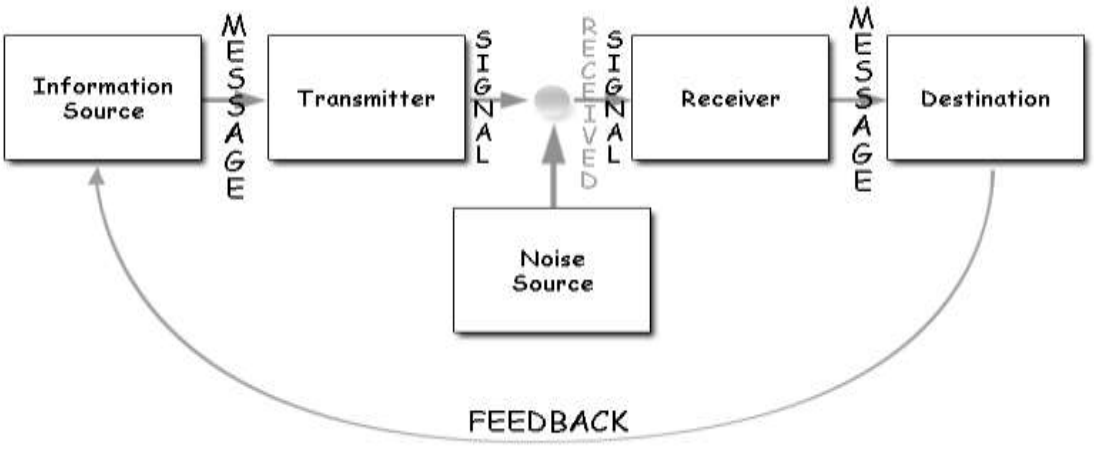

Figure 1: An interactive communication model

The key concept associated with this elaboration is that the interactive model of communication suggests that if communication is to be successful, it is not enough to 'send-off' a message and assume that it will automatically be understood by the recipient. Rather, communication is a more demanding process, where the sender needs to communicate the message, then find ways of checking with the recipient how the message has been interpreted, and, based on this feedback, re-communicate the message. According to this model, such continuous interaction leads to greater chances of successful communication than a linear approach. (Maxwell & Stone, 2005)

The organizational environment challenges us every day with an array of social interactions, and in this relationship cobweb, assertiveness is the most powerful communications tool to manage and resolve the diverse situations an organization must face.

Among the three communication styles--Passive, Aggressive and Assertive- it is assertive communication is the one deemed suited for organizations (Filipeanu & Cananau, 2015). Assertiveness has been defined in literature. According to Sanchez (2000, as cited in Montero, 2010), it is "the direct expression of feelings, desires, legitimate rights, and opinions without threatening or punishing others and without violating the rights of others." A person with assertive behavior is capable of communicating with confidence with superiors and transmits doubts or problems in a precise and correct manner. This confidence springs from an individual's concept of himself. Self-concept or awareness is the basis of communication, particularly intrapersonal communication because it determines how a person sees him/herself and how he is oriented towards others which include beliefs, values, and attitudes (Frank, 2011). For Bovee and Gran (2001), confidence is a feeling or belief that one's actions, performance, or evaluation will be correct, proper, or effective, which stresses faith in oneself and one's ability without any suggestion of conceit.

The pervasiveness of computers is continuing to grow at an outstanding rate (Groff, 2013; Mattern & Floerkemeier, 2010). As companies become ever more dependent on technology, the value a potential employee may be measured in terms of his or her technological awareness and competency. The highest goal of a computer-literate person is to be able to learn and use new computer programs without large amounts of help and these sophisticated skills are held by only a small segment of the population (Olson et al., 2011; Oyelekan, 2010). Computer literacy is usually equated with technological awareness which gives people of all ages an edge in both their careers and their education.

The knowledge that is needed by an individual about the computer is fully used by him and thus the person who possesses all the knowledge of the computer do this with the help of his computer skills which can be attained only if certain pedagogical conditions are met (Groff, 2013; Churchhill et al., 2013). He also can deal with the software and the hardware programs which are being used with the computer. The computer literate person gets to know each and everything about the computer and also tends to perform the computer functions too. It means having some level of comfort around computers rather than a look of fear and a feeling of foreboding.

Based on the preceding insights, a conceptual framework presented in Figure 2 was developed. The framework suggests that organizational communication efficiency or competence is dependent on the level of proficiency in interactive communication, confidence and assertiveness and adequate technological awareness possessed by an individual.

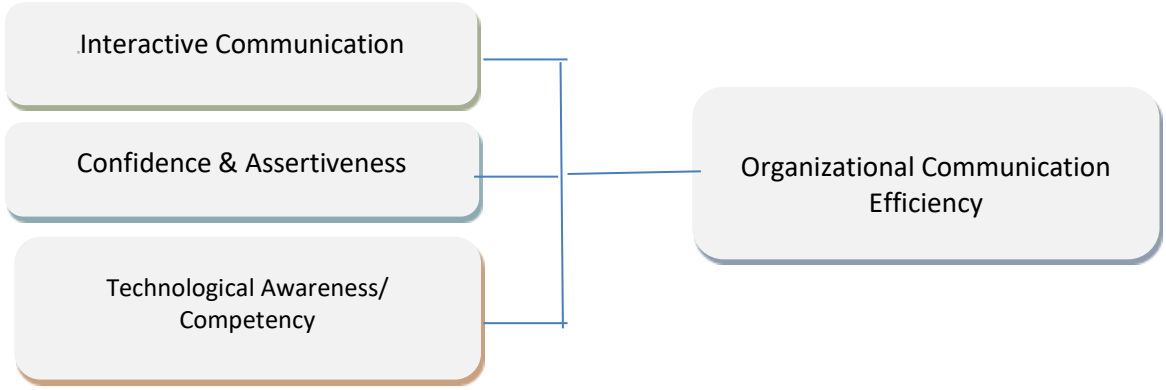

Figure 2: Conceptual model of the study.

Statement of the Problem

The study sought to develop and validate the organizational communication efficiency scale in its form. Specifically, the study sought to answer the following questions:

- What is the composition of organizational communication efficiency scale?
- How valid and reliable is organizational communication efficiency scale?

Definition of Terms

To achieve a common frame of reference, the following terms are defined as they were used in the study:

Scale/s: Measurement instruments that are a collection of items combined into a composite score and intended to reveal levels of theoretical variables not readily observable by direct means used to measure phenomena we believe to exist because of our theoretical understanding but cannot be assessed directly. (De Villis, 2012).

Exploratory Factor Analysis (EFA): EFA is used to discover the factor structure of a measure and to examine its internal reliability. EFA is often recommended when researchers have no hypotheses about the nature of the underlying factor structure of their measure. Exploratory factor analysis has three basic decision points: (1) decide the number of factors, (2) choosing an extraction method, (3) choosing a rotation method. (Newsom, 2005)

Organizational Communication as a discipline looks at how people ascribe meaning to messages, verbal and non-verbal communication, communication skills and effectiveness in communication in organizations and how meanings are distorted or changed while people exchange messages through formal or informal networks (Erreygers, 2004).

Scope and Delimitation

The study was intended to develop a valid and reliable organizational communication efficiency scale. The results were delimited to the data gathered from 400 senior college students using random purposive sampling. Exploratory factor analysis (EFA) was applied to the data gathered where the resulting Cronbach's Alpha was considered to ensure the internal consistency of the data under analysis.

RESEARCH METHODOLOGY AND DESIGN

The study attempted to develop an objective scale that is hoped to assess the organizational communication efficiency of senior college students. The instrument was subjected to a systematic process – exploratory factor analysis, that is, to come up with a valid and reliable measure of organizational communication efficiency.

Data-gathering procedures

A 71-item survey questionnaire was developed which comprised of three (3) parts to assess organizational communication efficiency of senior college students. Part 1 included items relative to 'Interactive Communication' while Parts 2 and 3 presented items that measure the respondents' 'Confidence and Assertiveness' and 'Technological Awareness'

respectively. A 5-point Likert scale was applied, with descriptive equivalents that correspond to the following:

5 Always
4 Often
3 Sometimes
2 Rarely
1 Never

Before the survey questionnaires were administered to the respondents, the researchers drafted letters to five (5) validators who are experts in the field of psychology (2), organizational development (2) and English (1). This was done for content or face validation and language editing. Non-valid items with regards to validators' assessments were excluded from the list of items to come up with the preliminary survey form.

Permission letters were likewise drafted and presented to the management of the aforementioned school where the survey was administered. A maximum of 20 minutes was allotted for the respondents to completely accomplish the survey instrument.

Out of the total population, only 400 questionnaires were accomplished/ retrieved, the number of which is a valid representation of the total population.

Statistical Treatment

Exploratory Factor Analysis using SPSS was applied to the gathered data which was done on a per-subscale basis. Data in each subscale after EFA were dispersed into their respective factor components.

Prior to exploratory factor analysis, Kaiser Mayer Olkin (KMO) Measure of Sampling Adequacy and Barlett's Test of Sphericity were applied through SPSS to determine the fitness of each subscale's data. The results per subscale registered a significance of .000 which means that the number of samples is adequate for factor analysis to be performed or to proceed.

Principal component analysis was used for extraction of data and Varimax for data rotation. Reliability test was likewise applied to determine the internal consistency of the data.

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Table 1 resents the dimensions under *Interactive Communication.* Interactive communication involves at least two participants. The content of any particular message is determined in part by the content of prior messages from all participants and so cannot be predicted from the content of any one of them (Chapanis, n.d). Conferences, arguments, seminars, and telephone conversations are among the common examples of interactive communication.

Table 1: Exploratory Factor Analysis and Reliability of the Interactive Communication Subscale

Interactive Communication		EFA Results								Corrected item –total correlation	Cronbach Alpha if item deleted
		Factor Loadings							Communality		
		F1	F2	F3	F4	F5	F6	F7			
1.	I give up when I can't make myself understood.	-.098	-.135	-.106	.756	.053	-.020	-.030	.615	-.117	.748
2.	I have a hard time constructing an English sentence.	-.079	-.037	.083	.734	-.349	.060	.057	.683	-.094	.743
3.	I tried to use fillers when I cannot think of what to say.	-.127	.190	-.002	.392	.281	.007	.524	.559	.163	.724
4.	I Respond with finesse when faced with on-the-spot questions and challenges	.089	.029	.222	-.154	-.050	-.104	.777	.698	.185	.722
5.	When I don't understand others, I continue to express my thoughts rather than ask them to clarify.	.045	-.051	-.257	.252	.046	.375	.451	.481	.037	.739
6.	I use correct grammar in written and oral communication.	.784	.050	-.002	-.107	.005	.089	.172	.666	.419	.702
7.	I use correct punctuation marks and spelling in written communication.	.780	.171	.004	-.092	.021	-.021	-.031	.649	.424	.701
8.	I do Proof reading immediately after writing.	.598	.008	.298	-.061	.159	.119	-.025	.490	.432	.701
9.	I pay attention to grammar and word order during conversation.	.558	.284	.200	-.030	.211	.045	-.041	.481	.506	.693
10.	I listen and pay attention actively and objectively.	.488	.283	.371	.097	.269	-.327	-.081	.651	.467	.698
11.	I listen with a purpose of developing a framework.	.410	.381	.284	.131	.458	-.234	-.096	.685	.528	.692
12.	I find distractions very annoying.	.203	.033	.063	-.140	.741	.007	.143	.635	.323	.711
13.	I can easily figure out what the speaker intend to say even if the idea isn't explicit.	.092	.078	.809	.049	.010	.127	.145	.708	.381	.707
14.	I easily recognize if someone is saying one thing but means another.	.197	.107	.715	-.112	.113	.071	-.002	.592	.389	.706
15.	I mentally argue with the speaker.	.048	.058	.102	-.076	.556	.557	-.118	.655	.268	.717
16.	I care more about the overall impression of the speaker than the details presented.	.080	.095	.181	.030	-.028	.774	-.015	.650	.228	.719
17.	I ask good questions to prompt further discussion.	.122	.708	.046	.030	-.018	.321	.173	.652	.407	.703
18.	I use positive verbal signals.	.232	.774	.132	-.048	.026	.108	.036	.686	.480	.696
19.	I focus on what the speaker is saying and not on my own next statement.	.069	.615	.041	-.154	.101	-.186	-.047	.455	.246	.718
Eigenvalue of Factor 1 = 4.263 Variance explained = 22.435 % Eigenvalue of Factor 2 = 1.713 Variance explained = 9.015 %										Overall Cronbach's Alpha = .724	

Interactive Communication	EFA Results								Corrected item –total correlation	Cronbach Alpha if item deleted
	Factor Loadings							Commu nality		
	F1	F2	F3	F4	F5	F6	F7			
Eigenvalue of Factor 3 = 1.326	Variance explained = 6.980 %									
Eigenvalue of Factor 4 = 1.184	Variance explained = 6.234 %									
Eigenvalue of Factor 5 = 1.114	Variance explained = 5.865 %									
Eigenvalue of Factor 6 = 1.051	Variance explained = 5.530 %									
Eigenvalue of Factor 7 = 1.039	Variance explained = 5.466 %									

A closer look at the table revealed that the subscale was dispersed into seven (7) with the first factor showing higher factor loadings than the others. Under Factor 1, factor loadings for items 6 (.784), 7 (.780), 8 (.598), 9 (.558) are within the acceptable limit, having values of more than .50. For Factor 2, only items 17, 18 and 19 fall within the acceptable limit with loadings of .708, .774 and .615 respectively. Items 13 and 14 under Factor 3, which bear loadings of .809 and .715 accordingly, likewise fall within the acceptable limit. An inspection of Factor 4 reveals that items 1 and 2 have significant loadings of .756 and .734 correspondingly. Among the loadings under Factor 5, only factor loadings for items 12 (.741) and 15 (.556) bear significance. For Factor 6, items 15 and 16 show loadings of .557 and .774 while with items under Factor 7, item 3 with a loading of .524 and item 4 with .777 factor loading fall within the acceptable limit of .50.

The communalities show how much of the variance in the items have been accounted for by the extracted factors. Out of 19 items, 15 items are contributing to the subscale as revealed by values greater than .5. These items are: I give up when I can't make myself understood (.615); I have a hard time constructing an English sentence (.683); I tried to use fillers when I cannot think of what to say (.559), I respond with finesse when faced with on-the-spot questions and challenges (.698); I use correct grammar in written and oral communication (.666); I use correct punctuation marks and spelling in written communication (.649); I listen and pay attention actively and objectively (.685); I find distractions very annoying (.635); I can easily figure out what the speaker intends to say even if the idea isn't explicit (.708); I easily recognize if someone is saying one thing but means another (.592); I mentally argue with the speaker (.655); I care more about the overall impression of the speaker than the details presented (.650); I ask good questions to prompt further discussion (.652), and I use positive verbal signals (.686).

On the other hand, only four (4) items are not contributing to the subscale since they fall below the significance limit of .5. These are: When I don't understand others, I continue to express my thoughts rather than ask them to clarify (.481); I do Proof reading immediately after writing (.490); I pay attention to grammar and word order during conversation (.481), and I focus on what the speaker is saying and not on my next statement (.455).

The EFA for *Interactive Communication* has resulted in seven (7) factor loadings which indicate that the items in Factors 2 to 7 are also reflected in the eigenvalues (1.713, 1.326, 1.184, 1.114, 1.051 and 1.039). Only Factor 1 (eigenvalue =4.263) reflect the relationship of items in the subscale.

The Total Variance Explained shows all the factors extractable from the analysis along with their eigenvalues, the percent of variance attributable to each factor and the cumulative variance of the factor and the previous factors. Factor 1 accounts for 22.435% of the variance, Factor 2 accounts for 9.015% of the variance, Factor 3 accounts for 6.980%, while Factors 4, 5, 6 and 7 accounts for 6.234%, 5.865%, 5.530% and 5.466% of the variance respectively.

The Corrected Item-Total Correlation displays the correlation between a given *Interactive Communication* item and the sum score of the other items. This is a way to assess how well one item's score is internally consistent with composite scores from all other items

that remain. De Vaus (2004, as cited in Griffin, 2005), in his Surveys in Social Research, suggests that anything less than .30 is a weak correlation for item-analysis purposes.

The higher the corrected item-total correlation is, the stronger the relationship that exists between and among the items in the subscale. Using De Vaus's metrics, of the 19 items under *interactive Communication,* 11 items showed stronger correlation or internal consistency with other items in the subscale. These are: (6) I use correct grammar in written and oral communication (r =.419); (7) I use correct punctuation marks and spelling in written communication (r=.424); (8) I do Proof reading immediately after writing (r=.432); (9) I pay attention to grammar and word order during conversation (r=.506); (10) I listen and pay attention actively and objectively (r=.467); (11) I listen with a purpose of developing a framework (r=.528); (12) I find distractions very annoying (r=.323); (13) I can easily figure out what the speaker intends to say even if the idea isn't explicit (r=.381); (14) I easily recognize if someone is saying one thing but means another (r=.389); (.407) I ask good questions to prompt further discussion (r=.407) and (18) I use positive verbal signals (r=.480).

Items considered having low correlation values are those whose corrected item-total correlation fall below the acceptable limit of.30 namely: (1) I give up when I can't make myself understood (r=-.117); (2) I have a hard time constructing an English sentence (r=-.094); (3) I tried to use fillers when I cannot think of what to say (r=.163); (4) I respond with finesse when faced with on-the-spot questions and challenges (r=.185); (5) When I don't understand others, I continue to express my thoughts rather than ask them to clarify (r=.037); (15) I mentally argue with the speaker (r=.268); (16) I care more about the overall impression of the speaker than the details presented (r=.228) and (19) I focus on what the speaker is saying and not on my next statement (r=.246). These items that registered values lower than the set r value are those that have lesser or lower internal consistency with other items in the subscale and therefore, tends not to measure what all other items tend to measure. The index of reliability as shown by the Cronbach's Alpha if Item Deleted is valuable for determining which items from among the set of items under *Interactive Communication* contribute to the total alpha. The value presented in this column would represent the alpha value if the given item were not included.

Cronbach's alpha reliability coefficient ranges from 0 to 1.0. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. George and Mallery (2003) provide the following rules of thumb:

$\geq .9$ – Excellent
$\geq .8$ – Good
$\geq .7$ – Acceptable
$\geq .6$ – Questionable
$\geq .5$ – Poor and
$< .5$ – Unacceptable

Considering the above values, the overall Cronbach's Alpha of *Interactive Communication* items of .724 is *Acceptable*. It is noteworthy to mention that this column presents the values that Cronbach's alpha would have if a particular item is deleted from the subscale. It could be gleaned from Table 1 that removal of items (1) I give up when I can't make myself understood. (α =.748); (2) I have a hard time constructing an English sentence (α=.743) and (5) When I don't understand others, I continue to express my thoughts rather than ask them to clarify (α=.739) would result in a higher overall Cronbach's alpha, therefore, increasing internal consistency. These items have α values higher than the overall α value.

The Corrected Item-Total Correlation values of the items above are low, registering r values of -.117, -.094 and .037 respectively. However, removing these items amount to only a small improvement in the overall Cronbach's Alpha. Thus, the decision to retain the items.

Table 2 presents items under *Confidence and Assertiveness* subscale. Leaders with assertiveness skills will have the resources and capacity to challenge and implement strategy, manage emotions in the professional arena, give, process and receive feedback adequately, effectively prevent conflicts, understand different behaviour styles and learn to use them to build productive relationships, improve supervisory skills and face with enthusiasm changes and challenges in organizational life.

This subscale has the most number of items under it, 31 in all. It could be gleaned from the Table that the subscale was dispersed into seven (7) factors with Factor 1 bearing higher factor loadings than the others. Under Factor 1, factor loadings for items 27(.561), 28 (.727), 29(.598), 30(.635) and 31(.555) are within the acceptable limit, having values of more than .50. For Factor 2, four items namely 19, 22, 23, and 24 fall within the acceptable limit with loadings of .520, .675, .693, and .578 respectively. Items 13, 14 and 15 under Factor 3, bear loadings of .721, .709 and .569 accordingly, and thus, fall within the acceptable limit. An inspection of Factor 4 reveals that items 16, 17 and 18 have significant loadings of .655, .628 and .655 correspondingly. Among the loadings under Factor 5, only factor loadings for items 8 (.772) and 9 (.665) bear significance. For Factor 6, only item 5 show loading greater than .50 (.557) while with items under Factor 7, item 3 with a loading of .671 and item 4 with .618 factor loading fall within the acceptable limit of .50.

Table 2: Exploratory Factor Analysis and Reliability of the Confidence and Assertiveness Subscale

Confidence and Assertiveness		**EFA Results**								**Corrected item –total correlation**	**Cronbach's Alpha if item deleted**
		Factor Loadings							**Communality**		
		F1	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**			
1.	I tend to look down at the floor or fold my arms across my chest when speaking to others.	.042	-.247	.018	-.048	.448	.333	-.218	.424	-.027	.880
2.	I avoid expressing my displeasure for fear that others will tell me that I'm too sensitive, or else criticize me in some other way.	.118	-.033	-.122	.098	.186	.627	.076	.473	.131	.875
3.	I ask others when I do not understand the meaning of a word.	.090	.124	.059	.128	.076	.060	.671	.503	.291	.871
4.	I voice out my opinion when a group is discussing an important matter.	-.018	.217	.250	.187	-.193	.167	.618	.592	.329	.870
5.	I ask friends or family members to speak for me when I'm reluctant to speak up for myself.	.025	.008	.153	-.028	.262	.602	.032	.457	.171	.875
6.	I tend to respond defensively when unfairly criticized.	.257	-.045	.066	.479	.265	-.043	.307	.468	.401	.869

Confidence and Assertiveness		EFA Results								Corrected item –total correlation	Cronbach's Alpha if item deleted
		Factor Loadings							Communality		
		F1	F2	F3	F4	F5	F6	F7			
7.	I feel uncomfortable taking credit for my own accomplishments.	.138	.037	-.098	.139	.687	.096	.053	.533	.229	.873
8.	I have doubts about my ability to handle an upcoming event or situation it as successfully as I'd like.	-.022	.052	-.082	-.070	.772	.085	-.055	.621	.078	.877
9.	Others find it easy to underestimate me.	-.136	.067	.287	-.148	.665	.178	.023	.602	.163	.875
10.	I feel confident that I can learn to do something which I have not done before	.448	.205	.155	.255	.102	-.148	.246	.424	.501	.866
11.	I admit whenever I make a mistake	.317	.314	.136	.093	.069	-.316	.318	.431	.389	.869
12.	I serve as a role model to other people	.288	.223	.640	.077	-.043	-.117	.116	.578	.523	.866
13.	I encourage others to translate vision into results	.273	.043	.721	.227	.011	.020	.080	.655	.547	.865
14.	I am proactive in developing strategies to accomplish objectives	.192	.024	.709	.258	.042	-.007	.048	.611	.508	.866
15.	I establish and maintain relationships with a broad range of people to understand needs and gain support.	.024	.333	.569	.302	.007	.006	.120	.541	.535	.866
16.	I anticipate and resolve conflicts by pursuing mutually agreeable solutions.	.144	.162	.372	.655	-.064	.138	-.018	.638	.556	.865
17.	I have the drive for a change and improvement	.095	.234	.209	.628	-.096	-.086	.239	.575	.485	.867
18.	I have the courage to take unpopular stands.	.163	.158	.206	.655	-.120	.181	-.040	.572	.474	.867
19.	I stand for what I believed in.	.231	.520	.066	.416	.044	-.268	.162	.602	.527	.866
20.	I make decision and take responsibility for the consequences	.233	.298	.259	.397	.098	-.354	.059	.506	.487	.867
21.	I feel that my opinion is much important than theirs.	-.012	.270	.070	.315	.173	.355	-.506	.590	.242	.873
22.	I gather relevant information before making a decision.	.132	.675	.082	.178	.051	-.108	.059	.528	.456	.867

Confidence and Assertiveness		EFA Results								Corrected item –total correlation	Cronbach's Alpha if item deleted
		Factor Loadings							Communality		
		F1	F2	F3	F4	F5	F6	F7			
23.	I Consider positive and negative impacts of decisions prior to making them.	.269	.693	.112	.138	-.091	-.162	.078	.625	.490	.867
24.	I take decisions with an eye to the impact on others and on the Organization	.400	.578	.118	.036	.003	.177	.109	.553	.538	.865
25.	I propose a course of action or makes a recommendation based on all available information.	.333	.447	.433	.024	-.033	.228	.026	.553	.553	.865
26.	I check assumptions against facts.	.132	.490	.290	.191	.147	.295	.033	.488	.537	.866
27.	I determine that the actions proposed will satisfy the expressed and underlying needs for the decision.	.561	.325	.252	.015	-.041	.149	.048	.510	.524	.866
28.	I make tough decisions when necessary.	.727	.060	.123	.000	.035	.147	-.054	.573	.413	.868
29.	I Identify the key issues in a complex situation, and comes to the heart of the problem quickly.	.598	.295	.252	.189	-.002	.110	-.041	.558	.584	.865
30.	I combine logic and common sense with the facts and data, assumptions, knowledge and experience.	.635	.187	.104	.326	.005	-.116	.115	.583	.544	.866
31.	I modify decision when it is needed.	.555	.198	.191	.367	.002	-.128	.131	.553	.568	.865
Eigenvalue of Factor 1 = 8.033 Variance explained = 25.914 % Eigenvalue of Factor 2 = 2.654 Variance explained = 8.562 % Eigenvalue of Factor 3 = 1.510 Variance explained = 4.871 % Eigenvalue of Factor 4 = 1.387 Variance explained = 4.473 % Eigenvalue of Factor 5 = 1.165 Variance explained = 3.758 % Eigenvalue of Factor 6 = 1.131 Variance explained = 3.650 % Eigenvalue of Factor 7 = 1.035 Variance explained = 3.340 %										Overall Cronbach's Alpha = .872	

The communalities show how much of the variance in the items have been accounted for by the extracted factors. Out of the 31 items, 24 items are found to be contributing to the subscale as revealed by values greater than .5. These items are: (3) I ask others when I do not understand the meaning of a word (.503); (4) I voice out my opinion when a group is discussing an important matter(.592); (7) I feel uncomfortable taking credit for my accomplishments(.533); (8) I have doubts about my ability to handle an upcoming event or situation it as successfully as I'd like (.621); (9) Others find it easy to underestimate me (.602); (12) I serve as a role model to other people (.578); (13) I encourage others to translate vision into results (.655); (14) I am proactive in developing strategies to accomplish objectives (.611); (15) I establish and maintain relationships with a broad range of people to

understand needs and gain support (.541); (16) I anticipate and resolve conflicts by pursuing mutually agreeable solutions (.638); (17) I have the drive for a change and improvement (.575); (18) I have the courage to take unpopular stands (.572); (19) I stand for what I believed in (.602); (20) I make decision and take responsibility for the consequences (.506); (21) I feel that my opinion is much important than theirs (.590); (22) I gather relevant information before making a decision (.528); (23) I Consider positive and negative impacts of decisions prior to making them (.625); (24) I take decisions with an eye to the impact on others and on the organization (.553); (25) I propose a course of action or makes a recommendation based on all available information (.553); (27) I determine that the actions proposed will satisfy the expressed and underlying needs for the decision (.510); (28) I make tough decisions when necessary (.573); (29) I Identify the key issues in a complex situation, and comes to the heart of the problem quickly (.558); (30) I combine logic and common sense with the facts and data, assumptions, knowledge, and experience (.583) and (31) I modify decision when it is needed (.553).

Conversely, only seven (7) items are not contributing to the subscale since they fall below the significance limit of .5. These are: (1) I tend to look down at the floor or fold my arms across my chest when speaking to others (.424); (2) I avoid expressing my displeasure for fear that others will tell me that I'm too sensitive, or else criticize me in some other way (.473); (5) I ask friends or family members to speak for me when I'm reluctant to speak up for myself (.457); (6) I tend to respond defensively when unfairly criticized (.468); I feel confident that I can learn to do something which I have not done before (4.24); (10) I admit whenever I make a mistake (.431); (11) I check assumptions against facts (.488) and (26) I check assumptions against facts. (.488).

The EFA for *Confidence and Assertiveness* has resulted in seven (7) factor loadings which indicate that the items in Factors 2 to 7 are also reflected in the eigenvalues (2.654, 1.510, 1.387, 1.165, 1.131, and 1.035). Only Factor 1 (eigenvalue = 8.033) reflect the relationship of items in the subscale.

The Total Variance Explained shows all the factors extractable from the analysis along with their eigenvalues, the percent of variance attributable to each factor and the cumulative variance of the factor and the previous factors. Factor 1 accounts for 25.914 % of the variance, Factor 2 accounts for 8.562 % of the variance, Factor 3 accounts for 4.871%, while Factors 4 , 5, 6 and 7 account for 4.473%, 3.758%, 3.650% and 3.340% of the variance respectively.

The Corrected Item-Total Correlation displays the correlation between a given *Confidence and Assertiveness* item and the sum score of the other items. This assesses how well one item's score is internally consistent with composite scores from all other items that remain under *Confidence and Assertiveness*. Using De Vaus' .30 standard correlation metric, 8 items show weak correlation as evidenced by their corrected item-total correlation values that fall below the acceptable limit as follows: (1) I tend to look down at the floor or fold my arms across my chest when speaking to others (r = -.027); (2) I avoid expressing my displeasure for fear that others will tell me that I'm too sensitive, or else criticize me in some other way (r = .131); (3) I ask others when I do not understand the meaning of a word (r =.291); (5) I ask friends or family members to speak for me when I'm reluctant to speak up for myself (r = .171); (7) I feel uncomfortable taking credit for my own accomplishments (r = .229); (8) I have doubts about my ability to handle an upcoming event or situation it as successfully as I'd like (r=.078); Others find it easy to underestimate me (r= .163) and (21) I feel that my opinion is much important than theirs (r = .242).

Stronger relationship among items in the subscale has been evident with the high corrected item-total correlation values of 21 items under the *Confidence and Assertiveness* subscale. These items have values greater than the set r value which indicates that they

measure what the other items tend to measure: (4) I voice out my opinion when a group is discussing an important matter (r=.329); (6) I tend to respond defensively when unfairly criticized (r=.401); (10) I feel confident that I can learn to do something which I have not done before (r=.501); (11) I admit whenever I make a mistake (r=.389); (12) I serve as a role model to other people (r=.523); (13) I encourage others to translate vision into results (r=.547); (14) I am proactive in developing strategies to accomplish objectives (r=.508); (15) I establish and maintain relationships with a broad range of people to understand needs and gain support (r=.535); (16) I anticipate and resolve conflicts by pursuing mutually agreeable solutions (r=.556); (17) I have the drive for a change and improvement (r=.485); 18) I have the courage to take unpopular stands (r=.474); (19) I stand for what I believed in (r=.527); (20) I make decision and take responsibility for the consequences (r=.487); (22) I gather relevant information before making a decision (r=.456); (23) I Consider positive and negative impacts of decisions prior to making them (r=.490); (24) I take decisions with an eye to the impact on others and on the Organization (r=.538); (25) I propose a course of action or makes a recommendation based on all available information (r=.553); (26) I check assumptions against facts (r=.537); (27) I determine that the actions proposed will satisfy the expressed and underlying needs for the decision (r=.524); (28) I make tough decisions when necessary (r=.413); (29) I identify the key issues in a complex situation, and comes to the heart of the problem quickly (r=.584); and (30) I combine logic and common sense with the facts and data, assumptions, knowledge and experience (r=.544) and (31) I modify decision when it is needed (r=.568).

The index of reliability as shown by the Cronbach's Alpha If Item Deleted column determines, which items from among the set of items under *Confidence and Assertiveness* contribute to the total alpha. The values presented represent the alpha (α) value if the given item were not included.

The overall Cronbach's lpha of Confidence and Assertiveness items of .872, which, as per George and Mallery's (2003) rule of thumb is "*Good*." It is noteworthy to mention that under this subscale, all items have α values that are over .800. Since the said values are close to 1, it could be gleaned that the items in this subscale have greater internal consistency.

Items that have α values higher than the overall α value are as follows: (1) I tend to look down at the floor or fold my arms across my chest when speaking to others (α=.880); (2) I avoid expressing my displeasure for fear that others will tell me that I'm too sensitive, or else criticize me in some other way (α=.875); (5) I ask friends or family members to speak for me when I'm reluctant to speak up for myself (α=.875); (8) I have doubts about my ability to handle an upcoming event or situation it as successfully as I'd like (α=.877); and (9) Others find it easy to underestimate me (α=.875).

The Corrected Item-Total Correlation values of the aforementioned items are low, registering r values of -.027, .131, .171, .078 and .163 respectively. Deleting these items would account for a small improvement in the overall Cronbach's Alpha. Thus, the decision to retain the items.

Table 3 presents the items under subscale *Technological Awareness.* There were five (5) factors extracted with Factor 1 items having greater factor loadings than the others.

Items under Factor 1 that reveal significant loadings are items 1 with a factor loading of .616, item 3, with loading equal to .708, item 4- .762, item 5-.730 and item 10-.664. Factor 2 items that fall within the acceptable limit are items 13, 14 15 and 16 which bear factor loadings of .568, 797, .712, and .657 respectively. Items under Factor 3 which fall within the acceptable limit are: items 11 (.700); 17 (.505) ; 19 (.683) and 20 (.751). Items 8 and 9 with loadings of .770 and .791 accordingly under Factor 4 likewise fall within the acceptable limit. Factor 5 has only two items namely items 2 and 18 bear significant loadings of .692 and .736 respectively.

The communalities that show how much of the variance has been accounted for by the extracted factors reveal that 16 items are contributing to the subscale with values greater than .50, while only 4 of the items do not show as contributing to the subscale. These non-contributory items are: (1) I utilize folders in organizing files (.493); (6) I save worksheets/ documents every after 5 minutes (.364); (7) I use keyboard shortcuts instead of clicking icons in formatting my work (.484); (12) I find it easy making online transactions (.490) and (17) I believe Google, indeed has the capability of being used for everything from research to project purposes. .

The following items, on the other hand, have been found to be contributing to the other items in the subscale: (2) I have a hard time in adapting to a newer version of windows (.542); (3) When getting a file from an external drive I scan it first to avoid virus (.550); (4) I properly eject/remove an external drive (.614); (5) I secure a backup copy to avoid unexpected deletion of files (.550); (8) I can easily troubleshoot simple computer error (.658); (9) I convert PDF file to MS word instead of retyping large number of words (.659); (10) I properly shut down the computer (.546); (11) I rely more on the internet (.583); (13) I use messenger (yahoo, MSN, skype) in connecting to other people (.556); (14) I update status on a social networking site (.716); (15) I share ideas and opinions in an online forum (.589); (16) Social networking site such as facebook, twitter, etc., is a part of my everyday task (.623); (18) I avoid using Wikipedia to avoid having the same work (.658); (19) I feel incomplete when there's no internet connection (.619); and (20) I am having trouble in making assignments without the presence of internet (.673).

The EFA for *Technological Awareness* has resulted in five (5) factor loadings which indicate that the items in Factors 2 to 5 are also reflected in the eigenvalues (2.524, 1.491, 1.274, and 1.203). Only Factor 1 (eigenvalue =4.976) reflect the relationship of items in the subscale.

Table 3: Exploratory Factor Analysis and Reliability of the Technological Awareness Subscale

Technological Awareness		**EFA Results**						**Corrected item –total correlation**	**Cronbach's Alpha if item deleted**
		Factor Loadings					**Communality**		
		F1	**F2**	**F3**	**F4**	**F5**			
1.	I utilize folder in organizing files.	.616	.143	-.048	.130	.272	.493	.438	.824
2.	I have a hard time in adapting to a newer version of windows.	.051	-.134	.149	.140	.692	.542	.170	.835
3.	When getting a file from an external drive, I scan it first to avoid the virus.	.708	-.024	-.045	.071	.203	.550	.369	.827
4.	I properly eject/remove an external drive.	.762	.025	.116	.001	-.138	.614	.402	.826
5.	I secure a back up copy to avoid unexpected deletion of files.	.730	.053	.004	.097	-.070	.550	.395	.826
6.	I save worksheets/documents every after 5 minutes.	.424	.175	.065	.377	.084	.364	.437	.824
7.	I use keyboard shortcuts instead of clicking icons in formatting my work.	.457	.182	-.008	.405	.280	.484	.477	.822
8.	I can easily troubleshoot simple computer error.	.005	.190	.153	.770	.072	.658	.382	.827
9.	I convert PDF file to MS word instead of retyping a large number of words.	.121	.015	.131	.791	-.040	.659	.328	.829
10.	I properly shut down the	.664	.230	.111	-.079	-.183	.546	.407	.825

Technological Awareness		EFA Results						Corrected item –total correlation	Cronbach's Alpha if item deleted
		Factor Loadings					Communality		
		F1	F2	F3	F4	F5			
	computer.								
11.	I rely more on the internet.	.193	.156	.700	.064	-.169	.583	.420	.825
12.	I find it easy making online transactions.	.392	.278	.491	.125	-.042	.490	.546	.819
13.	I use messenger (yahoo,msn,skype) in connecting to other people.	.423	.568	.233	-.034	-.004	.556	.545	.818
14.	I update status in a social networking site.	.261	.797	.070	.048	-.073	.716	.512	.820
15.	I share ideas and opinions in an online forum.	.030	.712	.006	.273	.083	.589	.424	.825
16.	Social networking site such as facebook, twitter, etc., is a part of my everyday task.	-.087	.657	.365	.156	.162	.623	.468	.822
17.	I believe Google, indeed has the capability of being used for everything from research to project purposes.	.233	.416	.505	-.040	.129	.500	.513	.820
18.	I avoid using Wikipedia to avoid having the same work.	.007	.315	.101	-.081	.736	.658	.274	.831
19.	I feel incomplete when there's no internet connection.	-.186	.116	.683	.239	.216	.619	.320	.830
20.	I am having trouble in making assignments without the presence of internet.	-.094	-.040	.751	.086	.302	.673	.295	.831
Eigenvalue of Factor 1 = 4.976		Variance explained = 24.882 %						Overall Cronbach's Alpha = .833	
Eigenvalue of Factor 2 = 2.524		Variance explained = 12.622 %							
Eigenvalue of Factor 3 = 1.491		Variance explained = 7.457 %							
Eigenvalue of Factor 4 = 1.274		Variance explained = 6.372 %							
Eigenvalue of Factor 5 = 1.203		Variance explained = 6.013 %							

The Total Variance Explained shows all the factors extractable from the analysis along with their eigenvalues, the percent of variance attributable to each factor and the cumulative variance of the factor and the previous factors. Factor 1 accounts for 24.882% of the variance, Factor 2 accounts for 12.622% of the variance, Factor 3 accounts for 7.457%, while Factors 4 and 5 account for 6.372%, and 6.013% of the variance respectively.

To assess how well each item's score under the subscale *Technological Awareness* is internally consistent with a composite score from other items, the values under the Corrected Item-Total Correlation is ascertained. It could be gleaned from Table 3 that three (3) items have weak correlation with other items in the subscale as shown by their values that fall below the acceptable standard of .30 as suggested by De Vaus (2004, as cited in Griffin, 2005). These items are: (2) I have a hard time in adapting to a newer version of windows (r=.170); (18) I avoid using Wikipedia to avoid having the same work (r=.274) and (20) I am having trouble in making assignments without the presence of internet (r=.295).

The overall Cronbach's Alpha for the *Technological Awareness* subscale is .833 which is "Good." Among the items under this subscale, only item 2 - I have a hard time adapting to a newer version of Windows, registered an α value of .835 which is greater than the overall α value. The same item has a weak correlation with the other items having an r value of only .170. Nevertheless, this item was decided to be retained since if deleted, only a very small amount of improvement with the overall α value would be reflected.

CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the following conclusions have been drawn: (1) The organizational communication efficiency assessment scale is composed of 70 items categorized into three subscales namely: *Interactive Communication, Confidence and Awareness* and *Technological Awareness,* after face validation by experts and after one item has been removed as per experts' advice; (2) 11 out of 19 show a stronger correlation with other items under subscale *Interactive Communication* (IC),; 22 out of 31 for *Confidence and Assertiveness* (CA), and (3) 11 out of 20 for *Technological Awareness* (TA). The reliability coefficient index also shows Cronbach's α values of .724, .872 and .833 for IC, CA and TA respectively with internal data consistencies described as *Acceptable, Good* and *Good.* The scale is valid and reliable in its current form.

The following recommendations are also hereby presented: (1) That a follow-up study be conducted on other relevant aspects of communication in the workplace to better assess the organizational communication efficiency of senior college students, and (2) That institutions focus on competency-based programs so that they may address specific needs of students to ensure their readiness to work in organizations.

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