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# Development of a Senior High School Career Decision Tool Based on Social Cognitive Career Theory

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**The implementation of the additional two years in the Philippine high school system began in the school year 2016-2017 as part of the K to 12 program of the Department of Education. The two years of senior high school is envisioned to provide ample time to acquire sufficient knowledge and mastery of skills that will prepare students for higher education and future employment. As part of the program, students are set to choose one career track from ten academic strands. With several factors to consider, it may be difficult for a student to select a career path. This study aims to create a tool that will guide students in choosing a particular career track using social cognitive career theory (SCCT) and analytic hierarchy process (AHP). SCCT was used to identify the factors to be considered in career decision making, whereas AHP was used to rank the tracks according to these factors. Pilot testing was done to more than 150 Grade 10 students to evaluate the tool.**

Key words: analytic hierarchy process, career decision making, K-12, social cognitive career theory

## INTRODUCTION

The school year 2016-2017 marks the start of senior high school in the Philippines as part of the K to 12 program implemented by the Department of Education (DepEd) (Department of Education 2016). There are four career tracks in the program: academics track, arts and design track, sports track, and the technical vocational track. The academics track and the technical vocational track are further divided into sub-tracks or what they refer to as "strands". Under the academics track, four strands are available: accountancy and business management (ABM); humanities and social sciences (HUMSS); general academic strand (GAS); and science, technology, engineering, and mathematics (STEM). The technical vocational track consists of four strands as well: agri-fishery arts, home economics, industrial arts, and information and communication technology (ICT). Hence, before entering senior high school, students need to select one track from these ten choices.

DepEd conducts the National Career Assessment Examination (NCAE) to help students decide what career to pursue in college. The goal of NCAE is to evaluate the students' skills based on a standardized examination. Aside from giving a measure of the skills, NCAE also

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provides recommendations on what types of job are suitable for the students (Philippine Congress 2013). However, the information that NCAE offers is just one of the many aspects a student may consider in choosing a career track.

Career decision making attracted many educational researchers as this is a very important part in planning career guidance for students, budget allocation for different institutions that provides training for the career tracks, curriculum development, and more. To understand more about career decision making, many researchers have already studied factors that may affect career decision making. Guay and co-workers (2003) proposed and tested a model in an attempt to explain career indecision in 834 French-Canadian college students. Factors considered in their model include parent role, self-efficacy, and peer role. According to Pascual (2014), students' first consideration in choosing career path to pursue is the availability of work after college. Koech and his colleagues (2016) concluded that the students' social interactions with teachers, parents, and peers affect the students' career choice. A study conducted in Antipolo, Rizal, Philippines, showed that gender, average monthly income, school preference, occupation of the head of the household, and the average scholastic ratings are associated to the career choice of Grade 9 students (Abarro 2016). According to Alexander (2010), the three most important motivators of students in choosing a career are good salary, stable job, and low stress.

Some researchers studied factors that may affect the career decision making specific to the field of study. A study by Aguado and co-workers (2015) showed that students' personal choice with parental support affects the level of interest in pursuing maritime program. According to Okiror and Otabong (2015), 30% of the 116 BS Agriculture students in an African university chose to pursue Agriculture because of their personal interests. About 20% considered the opportunities or benefits of having a degree in Agriculture, 15% said that they have farming background, 15% were due to their parents' advice, and 10% followed the advice from the career guidance program conducted during the secondary school level. Llenares and Deocaris (2014) identified that the type of school is the strongest predictor of why students choose STEM courses in college.

With so many factors to consider in making a career decision, students experience career uncertainty which affects their emotion, attitude, and behavior (Trevor-Roberts 2006). They face complex decisional tasks such as exploring different course of actions, reflecting on interests and skills, comparing suitable course of actions, and choosing one option. Hence, it could be very useful to have a decision tool that incorporates different factors to help students decide what career track to pursue.

This study aims to develop a career decision tool (designated as Career SOS Tool) based on social cognitive career theory (SCCT) using analytic hierarchy process (AHP). The aim of tool is to provide means to guide students in choosing the career track they are going to take in senior high school. Aside from personal inputs, the external factors, parental support, and availability of resources for the student were also considered. This could possibly help students avoid being mismatched with the wrong career track that may result to underemployment, unemployment, and low self-efficacy.

**Social Cognitive Career Theory**

Lent et al. (1994) developed SCCT to facilitate understanding of career choice, interest, and performance processes. This theory identifies the factors that interplay when a student chooses a certain track and progresses on the chosen career path. Moreover, it provides a framework on using social cognitive processes to explain success and failure, academic outcomes, and career outcomes.

SCCT is divided into two levels of theoretical analysis: the presentation of cognitive-person variables and the analysis of the additional sets of variables that may influence career-related interests and choice behavior (Lent et al. 1994).

The first level includes the core variables that affect career choice: self-efficacy, outcome expectations, and goals. Self-efficacy involves the student's perception whether he or she can succeed at a particular career choice. Outcome expectations include the student's perceived tangible rewards for successful performance. Goals, according to Bandura (1989), are the student's determination to accomplish a particular outcome. On the other hand, the second level includes the personal inputs, learning experiences, and contextual influences. Personal inputs comprise the student's physical attributes. Contextual factors take into account the conditions of the different environments.

SCCT helps in exposing areas that may aid researchers to understand more about career decision making and career-related personal variables. Researchers have used this model as basis for a number of studies in different settings. Some researchers used SCCT to observe vocational interests in different tracks or field of study. In 2002, Smith demonstrated how the social cognitive variables can predict information technology interests. Cunningham and co-workers (2005) used SCCT in studying students' intention in pursuing career in sports and leisure. Academic achievement in mathematics was also partially described by SCCT (Cupani et al. 2010). This study proposed that the successful academic performance is related to the mathematical ability, beliefs on this ability, and performance targets. Blanco (2011) applied SCCT to identify Spanish psychology students' interest and choice goals in participating in statistics-related academic or professional activities.

Aside from predicting career interests, researchers were also able to find links between social cognitive variables. Conklin and co-workers (2012) demonstrated the predictive nature of affective commitment in relationship to career decision self-efficacy and outcome expectations.

SCCT also allows researchers to learn more about factors that may negatively affect individuals in pursuing a career track. In 2013, Dahling and co-workers showed that financial strains are inversely related to job search self-efficacy, outcome expectations, and goals. Irvin et al. (2012) tested educational barriers in rural youth to identify variables that can help in intervention programs and policy making.

Tools were also developed in line with SCCT to measure social cognitive variables related to career decision making. Rogers and co-workers (2009) developed instruments that can measure the choice of medical specialty and practice location.

In this study, the researchers utilized SCCT to identify the criteria to be used in the career decision making tool that was developed. The SCCT factors used are self-efficacy, interests or preference of the student, aptitude, and the contextual supports such as number of schools available, number of financial assistance, and preference of parents. According to Lent et al. (1994), self-efficacy helps determine the choice of activities, environment, effort expenditure, persistence, thought patterns, and emotional reactions once a problem is encountered. Also, Hackett and Betz (1981) figured that self-efficacy can predict career-related choice. Lent et al. (1994) define vocational interests as patterns of likes, dislikes, and indifference that involve career-relevant activities. One's interests may develop goals and involvement in a certain career track. Preference of the students may be part of the predisposition of the students, which makes it one of the contextual factors that may affect the career decision making. One's aptitude is attributed to the learning experiences (Lent et al. 1994). Learning experiences may affect one's interests and self-efficacy and may also be mediated by the self-efficacy beliefs. Gastardo-Conaco and colleagues (2003) found that parents have the strongest influence on the Filipino adolescents' career targets as cited by Mattison (2011). The number of school and financial assistance are also relevant, since choosing a career track also depends on the resources available to the students. This may fall under the contextual factors.

**Analytic Hierarchy Process**

AHP is a method for multi-criteria decision making developed by Thomas Saaty (Saaty 1990). AHP includes a set of criteria and alternatives in which the best decision is to be selected as illustrated in Figure 1. In order to arrive at the best decision using AHP, decision should be decomposed into the following (Ansah et al. 2015; Saaty 2008, 1990):

1. State the problem of concern or the objective.
2. Set the decision hierarchy starting from the top with the goal of the decision, followed by the sub-goals or objectives progressing from intermediate levels to the lowest level (normally a set of alternatives).

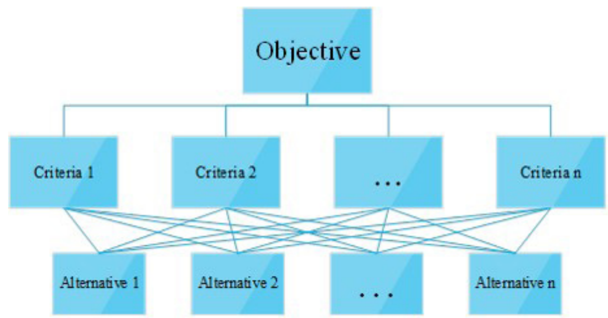


**Figure 1**. Construction of structural hierarchy.

3. Construct the set of pairwise comparison matrices for all the criteria and alternatives. In this part, priorities of the variables at each level are determined by constructing set of comparative judgments of all variables in connection to one another. A scale of numbers is used to designate the degree of importance of one variable over another variable in a particular level in the hierarchy. Table 1 shows the scale.

The matrix is mathematically denoted by:

$$A = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \cdots & \vdots \\ \vdots & \vdots & \cdots & \vdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{bmatrix}$$

where $A = a_{ij}, a_{ij} > 0$ and $a_{ij} = \frac{1}{a_{ji}}$, where $i, j = 1, \ldots, n$, for $i = j$, $a_{ij} = 1$, and $n$ represents the comparison number of variables.

**Table 1**. Pairwise comparison scale, Saaty (1990).

| Intensity of importance on an absolute scale | Definition | Explanation |
|---|---|---|
| 1 | Equal importance | Two activities contribute equally to the objective |
| 3 | Moderate importance of one over another | Experience and judgment strongly favor one activity over another |
| 5 | Essential or strong importance | Experience and judgment strongly favor one activity over another |
| 7 | Very strong importance | An activity is strongly favored and its dominance demonstrated in practice |
| 9 | Extreme importance | The evidence favoring one activity over another is the highest possible order of affirmation |
| 2, 4, 6, 8 | Intermediate values between the two adjacent judgments | When compromise is needed |
| Reciprocals | If activity i has one of the above numbers assigned to it when compared with activity j, then j has the reciprocal value when compared with i | |
| Rationals | Ratios arising from the scale | If consistency were to be forced by obtaining n numerical values to span the matrix |

4. Determine the weights of the criteria and local weight of alternatives, and apply normalization. The normalization process is done by dividing each value in column j by the sum of all the values in column j. Upon normalizing each column, the sum of the entries must be equal to 1. The normalization of the comparison matrix is represented mathematically by:

$$Aw = \begin{bmatrix} \frac{a_{11}}{\sum a_{i1}} & \frac{a_{12}}{\sum a_{i2}} & \cdots & \frac{a_{1n}}{\sum a_{in}} \\ \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots \\ \frac{a_{n1}}{\sum a_{i1}} & \frac{a_{n2}}{\sum a_{i2}} & \cdots & \frac{a_{nn}}{\sum a_{in}} \end{bmatrix}$$

5. Synthesize the weights and test for consistency. The weights of the alternatives can be determined by synthesizing the local weights. The eigenvector of $A$ can be computed by calculating $C_i$ as the arithmetic mean value for row $i$ of matrix $A_w$. This indicates the relative degree of importance of the criteria.

$$C = \begin{bmatrix} C_1 \\ C_2 \\ \vdots \\ C_n \end{bmatrix} = \begin{bmatrix} \dfrac{\frac{a_{11}}{\sum a_{i1}} + \frac{a_{12}}{\sum a_{i1}} + \cdots + \frac{a_{1n}}{\sum a_{in}}}{n} \\ \cdots \\ \cdots \\ \dfrac{\frac{a_{n1}}{\sum a_{i1}} + \frac{a_{n2}}{\sum a_{i2}} + \cdots + \frac{a_{nn}}{\sum a_{in}}}{n} \end{bmatrix}$$

The weight values $C_i$ are tested for consistency. This can be done by calculating the vector $A \times C$ and we denote the entries as $x_i$ .

$$A \times C = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2n} \\ \vdots & \vdots & \cdots & \vdots \\ \vdots & \vdots & \cdots & \vdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{bmatrix} \times \begin{bmatrix} C_1 \\ C_2 \\ \vdots \\ C_n \end{bmatrix} = \begin{bmatrix} x_1 \\ x_2 \\ \vdots \\ x_n \end{bmatrix}$$

Consequently, the eigenvalue of the comparison matrix $\lambda_{\max}$ is estimated using the formula $\lambda_{max} = \sum_{i=1}^{n} \frac{x_i}{C_i}$. The consistency index $CI$ is calculated as follows:

$$CI = \frac{\lambda_{\max} - n}{n-1}$$

Lastly, the consistency ratio (CR) is calculated to ensure the consistency of pairwise comparison matrix.

$$CR = \frac{CI}{RI}$$

The random index (RI) represents the random consistency index and values vary with respect to the value of *n* shown in Table 2. Inconsistency is concluded using the value of CR; if CR ≤ 0.10, then the degree of consistency is satisfactory. However, if CR is > 0.10, then it suggests that severe inconsistency and subjective judgment should be revised.

**Table 2**. Random index for the factors used in the decision making process.

| N | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RI | 0 | 0 | 0.58 | 0.9 | 1.12 | 1.24 | 1.32 | 1.41 | 1.45 | 1.49 | 1.51 | 1.58 |

AHP is one of the most commonly used multiple criteria decision making tool. It has a broad range of applications in engineering, politics, industry, and education (Vaidya & Kumar 2006). A couple of applications of AHP in the educational sector have been cited in the review of Vaidya and Kumar (2006), which includes Bahurmoz (2003); Kim and Yoon (1992); Tadisina et al. (1991); Bryson and Mobolurin (1997); Forgionne et al. (2002); Franceschini and Terzago (1998); Benjamin et al. (1992); and Miyaji et al. (1995). Bahurmoz (2003) used AHP in selecting the best candidates to send overseas for graduate studies. Kim and Yoon (1992) used AHP to evaluate expert systems and to determine the most appropriate expert shell as an instructional tool for an expert system course. Tadisina and co-workers (1991) have applied AHP in setting the criteria for selecting a doctoral program. Moreover, Forgionne and co-workers (2002) adopted it in the evaluation of artificial intelligence and decision-making support system journals. Franceschini and Terzago (1998) employed AHP in an application of quality function deployment to industrial training courses. Benjamin et al. (1992) utilized AHP to help facilities planner prioritize various goals to allocate space in an academic setting. Furthermore, Miyaji et al. (1995) used AHP in determining the optimal combination of questions in an examination problem.

## METHODOLOGY

### Implementation of Analytic Hierarchy Process

The following are the steps in the AHP approach: statement of the problem, setting the decision hierarchy, construction of the set of pairwise comparison matrices for all the criteria and alternatives, determining the weights of the criteria, and testing for the consistency (Ansah et al. 2015; Saaty 2008).

### Statement of the Problem

In this study, the problem was defined as choosing a particular career track for incoming Grade 10 students. Six criteria were identified according to SSCT to help students in deciding which track to choose: self-efficacy, interests or preference of students, aptitude, preference of the parents, number of school offering a particular track, and the number of financial assistance available for the student. Ten career tracks were considered as the alternatives in the AHP model. These alternatives are ABM, HUMSS, STEM, GAS, Arts and Design, Sports, Agri-fishery Arts, Home Economics, Industrial Arts, and ICT. Figure 2 shows the structural hierarchy for career track decision.

### Construction of Pairwise Comparison Matrix

For the construction of the pairwise comparison matrix, the following scheme was considered:

a. Self-efficacy, interests or preference of the student, preference of parents, and aptitude were ranked from 1 to 4 – 1 being the highest and 4 being the lowest. This is to be accomplished by the user. A sample ranking is shown in Table 3.

b. A number of school offering each strand and available financial assistance were assigned to have a fixed rank (5). In the SCCT, these contextual factors are considered the least impact in the career decision of the students.

**Table 3**. Rank score of each criterion.

| Criterion | Notation | Rank |
|---|---|---|
| Self-efficacy | SE | 3 |
| Preference of Students | PoS | 4 |
| Preference of Parents | PoP | 1 |
| Aptitude dictated by an authority | Apt | 2 |
| Number of Schools Offering Each Strand | NoS | 5 |
| Number of Financial Assistance Available | NoF | 5 |

c. Rank differences between pairs of criteria were taken as a basis in assigning intensity of importance. Table 4 shows the corresponding assigned weight for each rank difference. This is done to ensure that the comparisons are consistent.

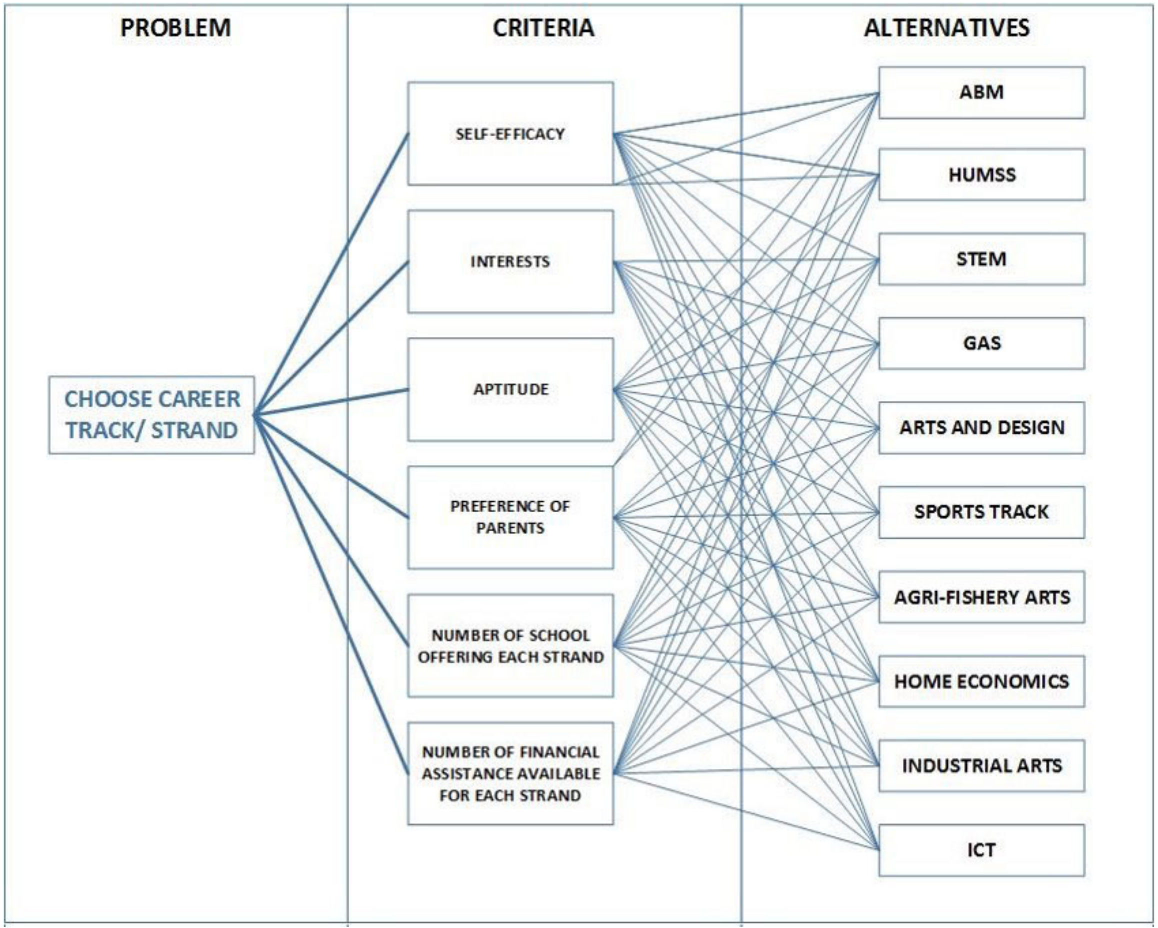


**Figure 2**. Hierarchy for career track decision. The problem is to select the most suitable career track from ten strands. There are six criteria considered, which are based on SCCT.

d. If the rank of the criterion from the first column of the matrix is less than that of the first row, the weight should be the reciprocal of the assigned weight.

**Table 4**. Weight assignment for the rank differences (criteria).

| Rank Difference | Weight Assignment |
|---|---|
| 0 | 1 |
| -1 | 2 |
| -2 | 3 |
| -3 | 4 |
| -4 | 5 |

Using the AHP formalism, the pairwise comparison matrix was constructed as given in Table 5. The diagonal entries are set to 1 while the non-diagonal entries are set as follows: if the rank difference is negative, then *ij<sup>th</sup>* entry is equal to the weight assignment as shown in Table 4. If the rank difference is positive, then $ij^{th}$ entry is the reciprocal of the weight assignment. The corresponding $ji^{th}$ entry has the reciprocal as its value. For instance, if we consider the criteria self-efficacy and preference of students, the ranks of self-efficacy and preference of students are 3 and 4 (as shown in Table 3), respectively. The rank difference is -1 which means that $a_{34} = 2$ and consequently $a_{43}$ = ½. The column total is obtained for the computation of the normalized matrix.

**Table 5**. Pairwise comparison matrix for the criteria.

| Criteria | SE | PoS | PoP | Apt | NoS | NoF |
|---|---|---|---|---|---|---|
| SE | 1 | 2 | 1/3 | 1/2 | 3 | 3 |
| PoS | 1/2 | 1 | 1/4 | 1/3 | 2 | 2 |
| PoP | 3 | 4 | 1 | 2 | 5 | 5 |
| Apt | 2 | 3 | 1/2 | 1 | 4 | 4 |
| NoS | 1/3 | 1/2 | 1/5 | 1/4 | 1 | 1 |
| NoF | 1/3 | 1/2 | 1/5 | 1/4 | 1 | 1 |
| TOTAL | 7.167 | 11 | 2.483 | 4.333 | 16 | 16 |

**Construction of Normalized Matrix**

The normalized matrix was constructed by dividing the weight assigned in a cell by the total of the assigned weights of its corresponding column (see Table 6 for the illustrative example). For example, $a_{11} = \frac{1}{7.167} = 0.140$ and $a_{12} = \frac{2}{11} = 0.182$.

**Table 6**. Normalized matrix.

| Criteria | SE | PoS | PoP | Apt | NoS | NoF |
|---|---|---|---|---|---|---|
| SE | 0.14 | 0.182 | 0.134 | 0.115 | 0.188 | 0.188 |
| PoS | 0.07 | 0.091 | 0.101 | 0.077 | 0.125 | 0.125 |
| PoP | 0.419 | 0.364 | 0.403 | 0.462 | 0.313 | 0.313 |
| Apt | 0.279 | 0.273 | 0.201 | 0.231 | 0.25 | 0.25 |
| NoS | 0.0465 | 0.045 | 0.081 | 0.058 | 0.063 | 0.063 |
| NoF | 0.0465 | 0.045 | 0.081 | 0.058 | 0.063 | 0.063 |

The overall weights of the criteria are obtained by getting the mean of each row. For the given normalized matrix, the overall weights are given in Table 7.

**Table 7**. Overall weight for each criterion.

| Criteria | Weight |
|---|---|
| SE | 0.1577 |
| PoS | 0.098 |
| PoP | 0.3788 |
| Apt | 0.2473 |
| NoS | 0.0592 |
| NoF | 0.0592 |

Based from the computation of overall weights, NoS and NoF are the least important criteria. Both NoS and NoF are contextual factors.

**Pairwise Comparison and Construction of Normalized Matrix of Career Track**

**Alternative for Each Criterion**

Since the problem is a two-level hierarchy, it is necessary to construct pairwise comparison matrix and normalized matrix for the alternatives. Similar process was carried out with the following course of action.

a. Self-efficacy, interest, and preference of parents
The user is asked to rate each alternative from 1 to 10. The rates were then ranked. The process of assigning weights and getting the normalized matrix is similar to that in Sections A2 and A3. Table 8 shows the weight assignment for each rank difference.

**Table 8**. Weight assignment for the rank differences (alternatives).

| Rank Difference | Weight Assignment |
|---|---|
| 0 | 1 |
| -1 | 2 |
| -2 | 3 |
| -3 | 4 |
| -4 | 5 |
| -5 | 6 |
| -6 | 7 |
| -7 | 8 |
| -8 | 9 |
| -9 | 10 |

b. Aptitude
The user was asked to input their grade in each subject area. Each subject area was grouped and assigned to the alternatives where it is relevant. The weight assigned for each alternative is the average grade divided by 100.

c. Number of schools and number of financial assistance
Weight assigned for each alternative is the number of school or financial assistance divided by the total.

**Evaluation of Consistency**

The ranking scheme we followed is well-ordered or organized in an orderly manner to avoid inconsistencies in comparing the importance of two criteria. One must avoid this particular scenario to happen: the user assigns "criteria A" as more important than "criteria B" and "criteria B" as more important than "criteria C" and then suddenly the user says that "criteria C" is more important than "criteria A". In this situation, there is an inconsistency.

**Ranking of Career Tracks**

All the weights of alternatives for each criterion are formed into a matrix. The overall scores for each alternative would be their weights in all of the criteria matrix multiplied to the weights of the criteria. The overall scores were then ranked and used to arrange the alternatives (career strands).

**Creation of Career SOS Tool**

In the creation of the tool, Microsoft Visual Studio 2010 Professional was used. Built-in tools in visual studio were used in creating graphical user interface of the tool and to implement the AHP framework.

**Evaluation of the Tool**

The sample comprised 159 Grade 10 students. Eighty female and 79 male students participated with mean ages of 15.5 ± 1.0 years and 15.8 ± 1.3 years, respectively. The Career SOS Tool was administered to the students during their computer class in Aug 2016.

The respondents were asked to rate the Career SOS Tool in terms of navigation, design, and utility. The evaluation tool is a 12-item questionnaire that is incorporated in the Career SOS Tool. This window will pop up after the Career SOS Tool output window. The students gave a rating ranging from 1 to 5, with 5 being the highest and 1 as the lowest score, on how well the statement describes Career SOS Tool.

## RESULTS AND DISCUSSION

**Career SOS Tool Implementation**

Figure 3 shows the Home window of the tool. The Home window is the first window that the user would encounter upon running the program. To start the program, the user must click on the play button. The round button with a question mark on it is the Help button and the round button with "i" is the About button.

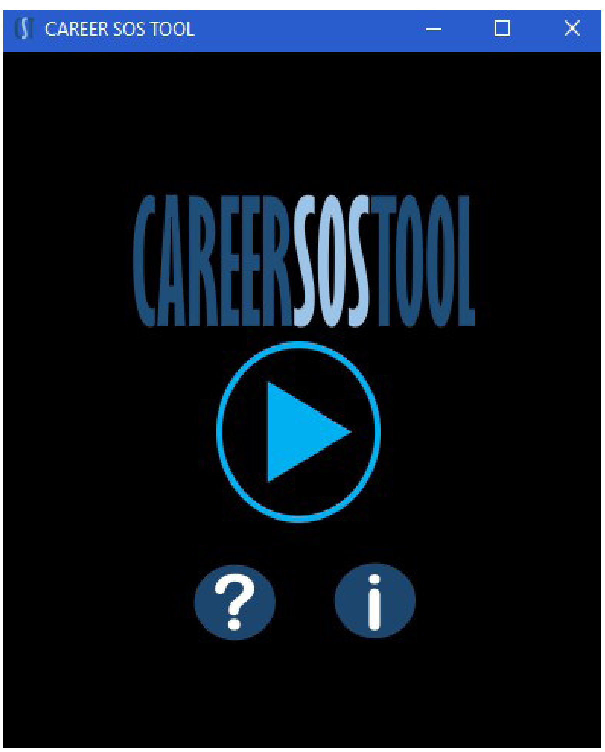


**Figure 3**. Career SOS Tool Home window.

The tool was created to be like an online quiz, as shown in Figure 4, wherein the users respond to questions and get the results immediately after. The respondents were asked to rank the criteria based on how it affects their career decision making. They were also asked to rate each career strand on how confident they are that they will perform well in that strand. They also input their grades in all their subjects, the number of schools they know that offer each career strand, and the number of available financial assistance. The answers are the input in AHP. The output (Figure 5) is the ranking

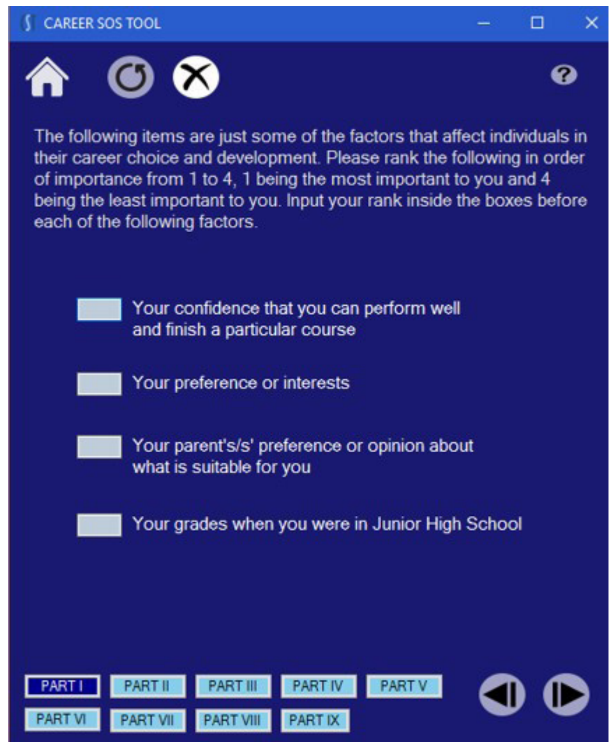


**Figure 4**. Career SOS Tool input sindow (part 1).

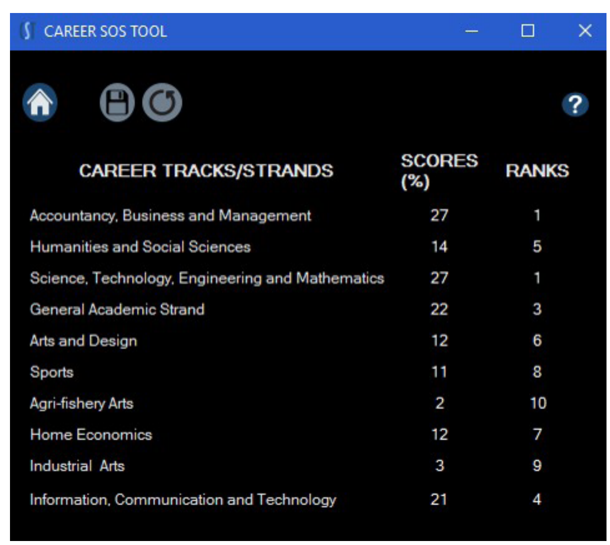


**Figure 5**. Career SOS Tool output window.

of the ten career track, together with their corresponding total weights. The user can save the results into a text file. The tool can be installed in Windows operating system. It is equipped with Help function that serves as a guide for the users in using the tool.

### Evaluation of the Career SOS Tool

To establish the reliability of the evaluation tool, the internal consistency of the ratings of 50 respondents was determined. The calculated Cronbach's alpha is 0.92, which indicates high reliability.

A total of 159 Grade 10 students used and evaluated the tool. Table 9 summarizes the responses of the students. Shown in the table is the number of respondents giving a particular rating – 1 is the lowest and 5 is the highest score.

The items were grouped into three categories: navigation, design, and utility. Navigation includes items 1 to 7. Under the design are items 8 to 10, while items 11 to 12 are under the utility. The students gave a fairly high evaluation, with a median score of 4 for navigation, 4 for design, and 5 for utility.

The comments about the tool are generally positive. The respondents have cited the ease of use of the tool and its usefulness in choosing a career track. The undecided population sees it effective in helping students decide what senior high school track to choose and rate the tool with a median score of 4.5 on item 11. The decided population gives a high median rating of 5 on item 12, which indicates that the result obtained by the tool is the same as the track that they plan to take.

## CONCLUSION AND RECOMMENDATION

The researchers developed a tool that can help junior high school students choose the appropriate career track in senior high. Based on SCCT, the researchers considered different factors that may affect career decisions, such as self-efficacy, preference of students, preference of parents, aptitude, number of schools offering the desired career track, and the availability of financial assistance or scholarship. Using these factors as input, the senior high school career strands were compared and ranked using AHP.

A total of 159 Grade 10 students used and evaluated the tool in terms of navigation, design, and utility. The respondents gave a fairly high evaluation, with a median score of 4 for navigation, 4 for design, and 5 for utility, and they cited the ease of use of the tool and its usefulness in choosing a career track.

Guidance counselors may use this tool in evaluating the students to help them make appropriate career choices. The Career SOS Tool was administered to the students during their computer class. However, in the unavailability of a computer equipment, the responses can be manually written and subsequently obtain results by encoding it in a computer with uploaded Career SOS Tool located in a nearby school.

## ACKNOWLEDGMENT

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**Table 9**. Number of respondents giving a particular rating on the evaluation of the Career SOS Tool.

| Evaluation Item | Frequency | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1. Entry to the tool is easy and obvious. | 2 | 9 | 25 | 53 | 68 |
| 2. Instructions for using the tool are clear. | 1 | 7 | 24 | 38 | 88 |
| 3. Navigation icons are consistent and readily available. | 4 | 14 | 31 | 56 | 51 |
| 4. I found it easy to navigate around the tool. | 4 | 16 | 34 | 49 | 54 |
| 5. The button and links were easy to understand. | 4 | 11 | 22 | 48 | 72 |
| 6. I find the textual content not wordy and boring to read. | 5 | 8 | 35 | 46 | 59 |
| 7. The tool is easy to use. | 2 | 9 | 19 | 52 | 74 |
| 8. The control items, pull-down menus, and icons are useful. | 2 | 8 | 24 | 57 | 65 |
| 9. The interface provides a straightforward method of moving through locations and performing tasks. | 4 | 15 | 26 | 55 | 56 |
| 10. The visual components of the program are clear and unambiguous. | 5 | 6 | 31 | 51 | 63 |
| 11. The tool is helpful in deciding what track to choose in senior high school. | 2 | 9 | 14 | 47 | 85 |
| 12. The tool confirms that I have chosen the best track suited for me. | 4 | 6 | 14 | 52 | 81 |

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