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Research Article

The Effect of K to 12 Strand on First Year BIT Food Technology Students in Pursuing their Higher Education

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Abstract: After identifying K to 12 strands of the first year BIT Food Technology students, reasons of taking the strand and the benefits gained were also determined qualitatively. In doing so, thematic approach was initially used and coding of important themes was done. The effect of taking their track in pursuing higher education was elucidated through a survey where different aspects, namely: academically, socially, emotionally, physically, economically, culturally, and spiritually were ranked from 1 as the most affected and 7 as the least affected using SPSS's Friedman Test. STEM was the identified as the strand taken mostly followed by TVL and lastly GAS strands.

Respondents from STEM strand found academically advantageous their taken strand, while respondents from TVL strand noted that their social skills were developed. They claimed that their practical skills were enhanced, thus developing their social aspect of belongingness. GAS strand takers, however, claimed that they experienced difficulty in the academic aspect for they are unfamiliar with their program's technicalities. Academic aspect was the most affected among the respondents, followed by emotional and social aspects. While the least affected aspect was the economical (financial) aspect. This study concluded that it is important to align the K to 12 strand to the program that may be taken in the college level. An intense collaboration of DepEd and CHED is suggested to focus on helping students experience the continuity of the two separate sectors, thus balance on the different aspects can be attained as they proceed to higher learning.

Keywords: BIT Food Technology Students, Higher Education, K to 12 Program, K to 12 Strands.

Introduction

Aiming to be recognized globally as professionals with uplifted standards, the K to 12 Program of the Department of Education was believed as the best period for learning under the basic secondary education. By having two more years, the learner is expected to gain mastery of skills for lifelong learning and be prepared for more potent career opportunities. In the new curriculum, each student can choose among four tracks namely: Academic, Technical-Vocational-Livelihood (TVL), Arts and Design, and Sports.

As the academic track is for those who have already and decided to pursue college education, they may either have: Humanities and Social Sciences (HUMSS), Science and Technology, Engineering and Math (STEM), Accounting, Business, and Management (ABM) or General Academic Strand. The TVL track focuses on practical knowledge and job-ready training where students may choose either Agri-fishery, Home Economics, Industrial Arts, or ICT. Arts and Design, on the other hand, is the track that provides the know-how on the different

arts and design forms, materials, media and production in the creative industries. Lastly, the Sports track is for those sports enthusiasts (Cueva, 2019).

In the study conducted by the Asian Development Bank, in collaboration with the Department of Education (2019), 85% of their respondents are expected to go to college. Degrees related to teacher training and security services were preferred by public school students while professional college majors like engineering, health, law, business administration and computing were preferred by private school students. As Uy and Martinez (2019) shared, "there is a need to ensure that senior high school students are able to make optimal choices by providing them access to various senior high school tracks." Students' track preferences were primarily based on their interest in the field and personal strength and/or skills (ADB and DepEd, 2019) but their final choice still depends on a number of factors like availability within the vicinity, more economical when it comes to requirements, and the like.

Philippine Congress (2013) shared that DepEd conducts the National Career Assessment Examination (NCAE) in the basic education to guide students in deciding what career to pursue in higher education. NCAE's goal is to evaluate the student's skills based on a standardized examination. It also provides recommendations on what type of job is suitable for the students. This is just one of the many aids a student can have in deciding what career track to take (Gestiada *et al.,* 2017). NCAE's result may somehow shed some light while planning what to pursue in the tertiary level though many other outside factors were considered by the students or their parents on what career track to take. Whatever the choice the student made, this will greatly affect his path as he steps up in the higher education.

Koech and his colleagues (2016) determined that social interaction with teachers, parents, and peers affects the students' choice while Alexander (2010) considered that good salary, stable job, and low stress served as the most important motivators in choosing a career path. Aguado, Laguador and Deligero (2015), in studying the pursuance of maritime program mentioned that students' personal choice with parental support affect their level of interest. Whatever is the learner's reason on taking the track, everything they experienced and learned while in the senior high school will be their armor as they proceed to the higher level or when they join the labor force. It is like they are investing in bullets, preparing for a battle, and looking forward for a smooth path toward the victory. Those bullets are their learnings and their preparation are those skills honed.

The training they went through will gear them into a smooth path to success. What will happen if the battle they prepared for is not they are expecting to be? How are they going to face archery war if they are trained how to use rifles? This study will be dealing with the same scenario. The K-12 track taken by the respondents will be identified and their reasons for taking their track as well as its benefits made will be given.

Lastly, in what aspect does the K to 12 strand affect most the respondents' college gateway experience will be determined. In doing so, as a whole, the effect of their track in pursuing their college level will be elucidated.

The importance of the alignment of track in their college level may be realized in the end. It can be noted that the improved alignment of K to 12 track on tertiary level contributed many benefits like students' success, financial benefit, and institutional accountability benefits (DeMaria, 2015).

Materials and Methods

The study utilized the mixed method of research. Descriptive quantitative design was used in attaining the frequency of their tracks taken. SPSS version 21 statistical software was used in quantitative analysis. Inferential statistics was applied in determining which aspect of respondents' experiences was most affected. Qualitatively, their reasons for taking their track as well as their benefits on different aspects were done, as they were ranked according to which influenced most, were collated using semi-structured interview and validated by conducting interviews. Purposive sampling was performed since the target respondents were first year BIT Food Technology students. All 22 students who belonged to the mentioned group served as respondents of the study. The instrument was formulated by the researchers, face and content validated by experts, before being given to the respondents. At the convenience of the respondents, questionnaires were distributed and followed by interviews to validate the content. Focus group discussions, according to their strand, were also done to ensure validity of the collected data.

The Statistical Package for Social Sciences (SPSS) software was used to treat the gathered data. Tabulation of Frequency and presenting the mean rank of data were all performed on SPSS. To determine which aspect of respondents' experiences was mostly affected by their taken K to 12 strand, those seven aspects given were ranked whereby 1 is the most affected and 7 is the least affected. Reason for ranking was also collated qualitatively.

Friedman test was used to determine the mean rank of each aspect. This mean rank is then used to define which aspect is generally affected among the respondents. On the other hand, the reason for taking the track was manually analyzed and coded according to possible themes that may arise. Proper statistical analysis contributed to the precision of results and inferences. Numbers resulted on computed solutions were made accurate as statistical analysis is applied (Ali and Bhaskar, 2016).

Results and Discussion

The K to 12 tracks of the first year students taking up Food Technology were presented in Table 1.0. It can be noted here that as ADB and DepEd revealed in their study, academic - STEM track is the most predominant choice for both parents and students. This was reflected in this study where academic –STEM track is the respondents' choice. This was followed by TVL-Home Economics track and lastly with GAS strand. In the study of Sarmiento and Orale (2016), the lack of tech-voc facilities and readiness of qualified teachers limit the accessibility of these programs to many.

Limited offering of strands in the Senior High caused a number to choose the general academic track. This reason contributed to misalignment of some respondents. As one respondent mentioned, "I prefer to take BS HRM but I took GAS strand since this is the only strand somehow applicable to me that is available within our vicinity". Misalignment already occurred since the beginning of decision of what track to take but due to some inevitable reasons, they choose a strand not related to their preferences. Choosing GAS is fine but at the end of senior high school as they enter the tertiary level, disadvantages were encountered. After analyzing the gathered data, the reasons of respondents in taking their track were shown in Table 2. The benefits of taking the track as they entered in the higher level of education were also collated. Respondents took the STEM strand to challenge themselves, while majority of them were influenced by their friends and few chose it since it's the most preferred strand that is available within the locality. Respondents from this track found the Food Technology program not that hard and manageable.

According to them, while in senior high school, they were able to develop skills in solving and analyzing varied problems and these skills helped them a lot to make the program manageable. On the other hand, respondents who took the GAS strand resorted to it because they are still undecided during those times in senior high school. As what Sarmiento and Orale (2016) shared, this strand is for those still undecided on what track to pursue; some said there is no more strand available that is somehow related to HRM; while some said they were just influenced by their friends. The strand they took gave them limited knowledge and they cannot easily relate/ deal with the topics being discussed particularly on major courses and allied sciences. Due to this, they found difficulty in adapting in college life, academically and socially.

The knowledge and skills they learned in the senior high school are not much related in their present chosen career. Respondents took the TVL-Home economics strand because according to them they found interest on the strand. Only one mentioned that she was influenced by a job opportunity while another one mentioned that it's the available strand near their locality. Their interest on home economics enabled them to develop communication skills and their guts in dealing with others were developed. The practical application of knowledge was also honed depending on their chosen specialization. Familiarity on technical terms became an advantage since they are in the related field of Food Technology.

From the gathered data on their reasons for choosing the track, it can be seen that their interest on what career path to take basically influenced their choice. As Aguador and his colleagues revealed in their conducted study on maritime students, most students are interested towards the degree program which enabled them to choose what path to take. ADM and DepEd mentioned in their study also, that across all areas, interest in subject matter is the reason most often cited by learners for their choice of track. On the other hand, the influence of others where the respondents belong posed significant stimulus also. The parents who support their studies, their friends whom they mingle every day, the mentor who guided them in their studies and career advisers who are present in institutions where they belong are some other sources of influence.

Muraguri (2011) mentioned that several factors like personal and cultural values, family background, career expectations, and career guidance affect an individual's choice of career. The availability of the track within the nearby locality also posed some reasons for the respondents to choose the limited available track. In this study, the STEM strand is the most commonly taken strand by the respondents. Sarmiento and Orale (2016) mentioned that the STEM strand is the most preferred track not only in the country but even in the US and Japan.

The study conducted by ADB and DepEd (2019) revealed the same result also where STEM is the most popular track choice among the respondents of the study, seconded by TVL track which is more prevalent in rural areas compared to urban areas.

Table 1. K to 12 Tracks taken by first year BIT Food Technology Students

Track	Strand	Percentage of Respondents
Academic Track	STEM	41%
	GAS	27%
TVL Track	Home Economics	32%
Total		**100%**

Table 2. Reasons of respondents for taking their K to12 Track

Strands	Reasons of Respondents in taking the track	Advantages	Disadvantages
STEM	To challenge themselves Influence of friends School is nearby	Developed skills in solving and analyzing different problems	None
GAS	Undecided Influenced by friends No other strand available that is related to HRM	None	Limited knowledge, not aligned/related Difficulty in adapting in the tertiary
TVL	Interesting Influence of job opportunity Available near the vicinity	Developed communication skills and practical applications of knowledge; learned to mingle	None

Table 3. Mean rank where the K to 12 strand affects most the respondents' gateway experience in college

Aspect	Mean rank	Std. Deviation
Academically	2.23	1.51
Socially	2.35	1.05
Emotionally	4.00	1.93
Spiritually	4.86	1.67
Economically	5.50	1.50
Culturally	4.73	1.60
Physically	4.32	2.17

In Table 3, the mean rank depicting where K to 12 strand affects most the respondents' gateway experience to college was presented. It can be seen that among seven aspects, the academic affects most their strand. It was validated through interviews with the respondents where, except with GAS, TVL and STEM strands shared that they found comfort in the learning process. According to STEM track respondents, their voluminous Science courses enabled them to easily grasp the topics presented during discussions. On the other hand, TVL strand respondents who are trained more on applications and skills realized the reasons of the sciences behind their skills and activities. This made Food technology interesting and easy to deal with for them. Secondly, particularly the TVL strand, their track helped them socially. Participation of students on activities enabled them to connect with their peers and thus develop a sense of belongingness (Martinez, 2016). The way they mingle with others did not become a hindrance; instead it helped them a lot since they developed communication skills while performing practical activities in the senior high school. Emotionally, their strand helped them to be more mature and motivated themselves to pursue higher learning. Respondents from three strands all shared their positive response on this aspect. Physically, their strand helped them to cope with the changes in their routine. The ample activity in the senior high school helped them greatly in this aspect. Their developed interest on activities like collaborations and skill-based approached (in the TVL) strand helped them to physically not be stressed with the current set up in the tertiary. Culturally, their tendency to adjust in the setting of the university was not so much given a chance to be developed through the help

of their strand. Only a few respondents favorably responded on the beneficial effect of their strand in this aspect.

The spiritual aspect was not also enriched during their senior high school. Since 45% of the respondents came from the public schools, this particular background may have contributed to this result. The private institutions where the respondents studied senior high school were all non-sectarian where the high value on the religious aspect is not given much focus. Lastly, the economic aspect had the least effect in their gateway experience to college. The free education in public schools helped respondents to see K to 12 education as not a burden to them financially.

Conclusions

From the results presented above, it can be concluded that upon entrance in the college level, the high impact of K to 12 education track can be notably observed in the academic aspect. As Gestiada *et al.,* (2017) mentioned in their study, the added two years in senior high school will prepare learners for higher education through providing enough time to acquire sufficient knowledge and mastery skills. In doing this, the academic aspect is of given high focus. Socially, K to 12 strand also assisted a lot in the respondents' entry to college by helping them mingle with their co-learners. The tendency of belonging to a group and seeking peer support helped them to perform better. As reiterated in a study, the development of human connections is important to increase educational goals (Martinez, 2016). Hence, mingling with others will contribute in meeting one's academic goals. Emotionally, the two year extra in the senior high helped them to mature as they responsibly comply with the requirements of the course.

From the results of the study, it can be seen that during senior high school the academic, emotional and social aspects were the ones mostly affected by the K to 12 strand. Similarly, according to some other researchers, these aspects significantly matter to learners. Its effect on respondents depends on their track taken; as for STEM strand positive response was noted whereas to GAS strand, negative response was shared when academic aspect was placed into consideration.

An alignment of strand with the program to be taken in college level may be suggested to ensure a favorable benefit of strand as they enter the college level. A more intense collaboration of two sectors involved namely DepEd and CHED may be done also to focus on helping students to let them experience the continuity of the two distinct levels, thus balancing on different aspects can be attained as students proceed to the higher level of learning.

Conflicts of interest: The authors declare no conflicts of interest.

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