



# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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ISSN: 2222-6990

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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v10-i11/7899>

DOI:10.6007/IJARBSS/v10-i11/7899

**Received:** 07 September 2020, **Revised:** 29 September 2020, **Accepted:** 15 October 2020

**Published Online:** 08 November 2020

**In-Text Citation:** (Augustine, Saidon, & Hashim, 2020)

**To Cite this Article:** Augustine, C., Saidon, W. H. Y. @ C. W. Z. L. B., & Hashim, Z. B. (2020). The Implementation of Capstone Project among Undergraduate Music Students. *International Journal of Academic Research in Business and Social Sciences*. 10(11), 686-696.

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Vol. 10, No. 11, 2020, Pg. 686 - 696

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## The Implementation of Capstone Project among Undergraduate Music Students

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### Abstract

A capstone is the scholarly experience at the end of a student's studies which can be in variety of forms or projects, such as a final product, presentation or performance. In the Faculty of Music and Performing Arts, Sultan Idris Education University, every diploma and undergraduate students undergo the capstone project in their final year. This research looked into the Bachelor of Education (Music) undergraduate programme, which focused on the 'Final Performance Project' course. Although the programme emphasizes on producing quality teachers, the capstone project also assist students' transition to employment other than teaching in schools. The research questions focused on the strength and challenges; how it develops holistic individuals and ways to improve the project. This research used the survey method to collect information from the former and final year music students of Faculty of Music and Performing Arts. The result showed that the music capstone project has proved to develop soft skills such as communication, leadership and team work although there were challenges faced by the students in the project. It is recommended that the implementation of capstone project to be carried out in other fields to prepare students before transiting into the industry world context.

**Keywords:** Capstone, High Impact Educational Practices (HIEPs), Holistic, Final Performance Project.

### Introduction

The Malaysia Education Blueprint (MEB) (2015-2025) requires every graduate to have relevant disciplinary knowledge and skills, ethics and morality, as well as the appropriate behaviours, mindsets, and also cultural and civilisational literacy to advance them to a high level of personal well-being. Since the higher education landscape is becoming more challenging and undergoes changes year by year, High Impact Educational Practices (HIEPs) have been introduced to provide students with comprehensive learning experiences, where one of the elements is the *Capstone Project* (CAP). In recent years, the Ministry of Higher Education (MoHE) and Malaysian public universities have given emphasis to high-impact practices that include community-based learning, global learning, collaborative assignments and projects, and the capstone project, to name a few. The research focuses on the capstone

project in an on-site setting, as no empirical study has been done on the area of performing arts, especially music.

The MEB was launched by the Ministry of Higher Education (MoHE) in 2015, intended to spur continued excellence in the higher education system. There are 10 shifts which address key performance issues in the system. This study is focused on the first shift which looks towards the development of holistic, entrepreneurial and balanced graduates, aligning with the main goal of the Malaysian education system to cultivate values-driven individuals. This requires Malaysian youths to possess transferrable skills and sound ethical foundations, but also the resilience and enterprising spirit to forge new opportunities for themselves and others. Its aim is to move from a world of job seekers to a world of job creators.

The Sultan Idris Education University, being the leading education university in Malaysia, emphasizes on the niche of educational excellence. One of the five objective policies is to produce holistic graduates who excel in academics, character (soft skills) and entrepreneurship. In the Faculty of Music and Performing Arts, the Bachelor of Education (music) undergraduate programme focuses on producing quality teachers, where the capstone project assists students' transition to employment other than teaching in schools, such as becoming a freelance music instructor, private school music teacher, musician, arranger, and composer.

The purpose of the study is to look into the implementation of the capstone project in the undergraduate music education programme. The objectives of this study are to:

- investigate the strength of the capstone project conducted at the Faculty of Music and Performing Arts;
- investigate how it develops holistic individuals;
- identify the challenges in the capstone project; and
- identify the actions that can be taken to improve the project

According to Schewing (2015), it is important to observe the learning outcomes of the curriculum, as the capstone project deals with organisational problems in a real-world situation. These disciplinary courses will be the fundamental for the students to face challenges in the different areas in their field.

### **Literature Review**

The techniques and designs for teaching and learning in the HIEPs have proved to be useful and advantageous for student engagement and successful learning for students from various backgrounds. One of the nine elements of the HIEPs is the CAP. Using the Kuh Model (2008), the capstone project covers three main aspects: 1) intellectual and practical skills; 2) personal and social responsibility; and 3) integrated and applied learning. In Kuh, O'Donnell and Schneider's (2017) study, the National Survey of Student Engagement "NSSE 2013 High-Impact Practices" showed that there was a 42% participation rate in capstone experience in Asian countries, the third-highest among five other high-impact practices, which are service learning, internship, learning community and studying abroad. These practices prepare students on how to integrate information, apply knowledge, synthesise information, and develop problem-solving skills, traits which are desired by employers.

According to Grapragasem, Krishnan and Azlin (2014), Malaysia has moved to a more knowledge-based society which focuses on the holistic development of individuals. Various initiatives and approaches have been introduced in the MEB to for the purpose of producing individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion to God. Haynes (2006) stated that if we

were to create such a holistic and reciprocal learning environment, where students and the faculty are encouraged to develop together as thoughtful scholars, leaders, and citizens, we would need to nurture and challenge them both inside and outside the classroom. Chan (2016) also mentioned that numerous studies have suggested a positive relationship between student engagement and student learning where policymakers should encourage leaders of higher education to utilise analytical data and to develop repurposing strategies that improve career or occupational opportunities prior to students' transition into the labour market. Thuntawech and Trakarnrung (2017) stated in their study that it is a challenge of an institution to develop people of various characteristics to achieve their highest capacities. The institution must transform the training process to inspire students to become lifelong learners by letting them explore themselves and promoting learning skills.

According to Keup (2015), the capstone project is usually conducted during the final year, which encompasses the students' experiences and skills in the form of a thesis/research paper, interdisciplinary course, internship, comprehensive exam or exhibition of perform music and art. It can also be called an assessment without examination where the weightage of the course depends on the knowledge and skills of the students without written examination. According to the HIEPs, it is recommended that the capstone project is to be implemented at the senior level and beyond, after 75% completion of the overall programme courses.

van Acker and Bailey (2011), with numerous citations, stated that there are three major functions of capstone courses: 1) to consolidate, extend and apply previous learning; 2) a vehicle for professional socialisation and the development of professional identity to assist students' transition to employment; and 3) to confirm that the students have mastered 'soft' or "employability" skills, as often referred to by the business sector.

Many studies conducted around Australia, Malaysia, the United States and the United Kingdom have been defined as capstone projects in specific fields, such as business (van Acker & Bailey, 2011; van Acker, Bailey, Wilson & French, 2014), engineering design (Beyerlein, Davis, Trevisan, Thompson & Harrison, 2006; Dunlap, 2005), problem-centered learning approaches (Paretti & Burgoyne, 2005), extreme programming software development (Keefe & Dick, 2004), engineering (McKenzie, Trevisan, Davis, & Beyerlein, 2004; Paretti & Burgoyne, 2005) and mechanical engineering (Nassersharif & Rousseau, 2010). According to van Acker and Bailey (2011), the capstone in Australian undergraduate business programmes is thus engaging where it highlights the richness of content from the discipline. The authors mentioned that 60% of Australian business schools have capstone courses. Nassersharif and Rousseau (2010), in their study, developed new assessment and rubric for the evaluation of design projects for the mechanical engineering capstone course in the University of Rhode Island. In another study by Dunlap (2005) from the University of Colorado states that the capstone for the undergraduate software engineering course used problem-based learning and was successful and effective in solving real-life problems.

In Malaysia, among the few public and private universities which implement the capstone course are the Faculty of Electrical Engineering of Universiti Teknologi MARA (UiTM); the Faculty of Electrical Engineering of Universiti Teknologi Malaysia (UTM); the Faculty of Engineer, Computing and Science of the Swinburne University of Technology; and polytechnics in the fields of Engineering and Technology.

The Faculty of Music and Performing Arts, Sultan Idris Education University, offers Diploma in Music, Bachelor of Education (Music), Master's Degree and Doctor of Philosophy in music, theatre and dance studies. The Diploma and Bachelor of Education programmes

offer a course entitled Final Performance Project (FPP) or Final Year Project (FYP), which every student is required to take in their final year. According to the course synopsis for both programmes, these courses are designed to provide the music or music education students with the knowledge and skills of planning, organising, managing, producing and performing in a music concert performance.

In the field of music, the learning outcomes of this course are basically planning and writing a proposal for the music performance project. Students are to demonstrate their knowledge and understanding to create innovative ideas and form a concept and theme. They also need to apply good musical knowledge, techniques and skills while performing. Soft skills such as communication, team work, problem solving, discipline and ethics are also highlighted in this project.

The contents of this course are basically an introduction on how to form a music production. The students form committees for various responsibilities in the production of the music performance. They organise and manage the project from the initial stage of proposing the theme up to the final performance showcase. The organising committee consists of members in charge of production, stage management, budget, promotion, sectional and whole ensemble practice, set and costume design, casting, lighting and sound design as well as composing or arranging songs for instrumental/vocal performances. The final performance project is performed over a few days where students promote the sales of entrance passes among the university students and staff, as well as to the public, especially school students and their parents, and other learning institutions and colleges.

The capstone project gives students the ability to apply the knowledge, theory and practical skills they have learned in a real-world setting. According to Abdullah, Liew, Na and Idrus (2013), capstone courses bring together knowledge from the respective discipline into a culminating learning experience for deeper understanding. In the final performance project, each student is monitored by their supervisors. The assessments are based on the process of the overall project along with the final performance. The process of the overall project (formative) is assessed by the supervisor while the final performance (summative) is assessed by external educators/practitioners who form the jury that assesses the overall final performance. The jury is selected based on their expertise and vast experience in production or the music industry. Lastly, the student committees are to prepare a complete report of the entire process of the project, comparable to a thesis project.

This research will look into the implementation of the music capstone project of the alumni and final year students in the Faculty of Music and Performing Arts in terms of strengths, challenges, how it supports holistic development as well as how it can be improved. The outcome of the research is hoped to benefit higher learning institutions, specific faculties, music educators, future music students as well as faculties/institution of other fields especially in Malaysia, by distinguishing the advantages and benefits of the capstone project as an added value in their programme structure.

### **Methodology**

The quantitative data acquired for this study were gathered via a survey conducted on former and current students who carried out capstone projects. The respondents comprised alumni (graduates) and final year music students of the Faculty of Music and Performing Arts. These respondents are from all over Malaysia and are mostly active as music practitioners in secondary schools in Malaysia, working as general education teachers or private music school

teachers. They are engaged in music activities in schools, such as the marching band, wind or pop orchestra, symphony orchestra and traditional music ensembles.

This study uses purposeful sampling, in which this method identifies and selects individuals who are able to give information effectively. Creswell and Clark (2011) in Palinkas, Horwitz, Green, Wisdom, Duan, and Hoagwood (2015) state that this comprises individuals or groups who are knowledgeable, proficient and have been through the same experience. In this study, the alumni and final year students of the Faculty of Music and Performing Arts were selected to be a part of this study based on their prior experience of the capstone project.

The research instrument used in this study was based on another capstone project survey, designed by three authors, Howe, Rosenbauer and Poulos (2016), called "2015 Capstone Design Survey". This survey was adapted to suit this research which focuses on the field of music. The four research questions of the study looked into: the strengths of the project (8 items); how the music capstone project is formed to develop holistic individuals (9 items); the challenges in carrying out the project (10 items); and the actions that can be taken to improve the project (open-ended). A pilot test was conducted to review the instrument for its reliability and validity and this was then verified by three experts in the field. The survey questionnaire comprises demographic details and close and open-ended questions. Data from this survey were collected over a duration of two months and analysed to determine the overall outcome of the implementation of the music capstone project.

## Findings

The survey is divided into three sections: Section A consists of the demographic data of the respondents, Section B is the analysis of all three research questions regarding the implementation of capstone in the Faculty of Music and Performing Arts, Sultan Idris Education University, and this is followed by Section C, a set of open-ended questions that require respondents to give their opinions. Since the respondents were located in various states across Malaysia, the survey was sent to their personal emails via *SurveyMonkey*, an online survey platform.

**Section A: Demographic details of the respondents.** Overall, 56 respondents participated in this survey, all of whom have undergone the music Final Performance Project. There were 24 males and 32 females; 45 are currently music teachers in government schools while the others are teaching in private schools or working in the music industry. In terms of years of experience teaching in school/institutions, the respondents' backgrounds are as follows: 10 respondents (>10 years), 11 respondents (6-10 years), 15 respondents (1-5 years) and 20 respondents (less than a year).

## Section B: Research Questions

Data for this section were taken from the components of the first three research questions with the highest ratings. Each respondent had to choose the best option out of three that were given. The data were analysed using basic descriptive statistics, which are percentages shown in the form of bar graphs to show discrete variables of the research results (Healey & Prus, 2010). The percentages will indicate the frequencies (f) of each response for every item stated in the survey.

**Research Question 1.** This question investigates the strengths of the music capstone project conducted at the Faculty of Music and Performing Arts. The percentage level ranges between 67.9 (lowest) and 94.6 (highest). The percentage indicates how most respondents agree with the specific details regarding the strengths of the project. The higher the percentage, the higher number of students who agree with the detail stated. These details are the choices given to the respondents, from which they have to choose one over the three options given. The details with the highest percentages are as follows:

**Table 1.** Strengths of Music Capstone Project

Item	Detail (with highest percentage)	Frequency (F)	Percentage (%)
Relationship	Faculty involvement	41	73.21
Professional setting	Real-world project	40	71.42
Experience objectives	Opportunities for creativity and innovation	38	67.85
Resources	Institutional support	49	87.50
Teamwork	Teamwork skills	43	76.78
Organisation	Project management	43	76.78
Project scope	Emphasis on project framing at beginning	45	80.35
Evaluation	Overall evaluation	53	94.64

**Research Question 2.** This question identifies how the music capstone project develops holistic individuals. The percentage level ranges between 64.3 (lowest) and 85.7 (highest). The percentage indicates how most respondents agree with the specific details regarding the holistic development through the project. The higher the percentage, the higher number of students who agree with the detail stated. These details are the choices given to the respondents, from which they have to choose one over the three options given. The details with the highest percentages are as follows:

**Table 2.** Holistic Development of the Capstone Music Students

Item	Detail (with highest percentage)	Frequency (F)	Percentage (%)
Personal success	Application of previous learning and skills	40	71.42
Interaction	Collaborating with other faculty/ departments/schools	48	85.71
Professional development	Transformation from students to professionals	40	71.42
Variety	New ideas and perspectives	43	76.78
Advising	Sharing personal experiences and expertise	41	73.21
Real-world	Staying current with new techniques and technologies	36	64.28
Creativity	Creativity/brainstorming/innovation	47	83.92
Project success	Providing good final result	38	67.85
Uniqueness	Designing the overall experience	45	80.35

**Research Question 3.** This question investigates the main challenges regarding the capstone project among the respondents of the music faculty. The percentage level ranges between 71.4 (lowest) and 91.5 (highest). The percentage indicates how most respondents agree with the specific details regarding the main challenges of the project. The higher the percentage, the higher number of students who agree with the detail stated. These details are the choices given to the respondents, from which they have to choose one over the three options given. The details with the highest percentages are as follows:

**Table 3.** Main Challenges in Music Capstone Project

Item	Detail (with highest percentage)	Frequency (F)	Percentage (%)
Workload/time	Time in general	49	87.50
Project-related	Finding the appropriate concept in the time frame	44	78.57
Student involvement	Getting and maintaining student commitment	47	83.92
Support	Equipment and facilities	43	76.78
Student teams	Keeping healthy team dynamics and student teamwork	47	83.92
Student preparation	Understanding wide range of student preparation	40	71.42
Meeting expectation	Ensuring high quality deliverables and student success	40	71.42
Variety	Mentoring many different disciplines	42	75.0
Real-world	Distinguishing between real world and theoretical applications	44	78.57
Others	Planning the work with students	51	91.07



**Research Question 4.** The responses to the open-ended questions to identify the actions to be taken to improve the capstone project were: to begin the proposal/theme presentation earlier; create guidelines or requirements for student reference; increase the number of credit hours; facilitate the space and facilities according to the needs of the specific theme; and collaboration with industry professionals, where they share their experiences and give constructive feedback for enrichment purposes.

Overall, the responses of each component scored between 64.30% and 94.6%. Although the music capstone project has many strengths and benefits, in the same manner, it also has many challenges that students have to overcome. The researcher emphasises that each student needs to play an active role to make the whole production a success as they hold various responsibilities with the assistance of their juniors. Keller, Parker and Chan (2011) highlighted that each student develops skills at different depths, depending on the role they are assigned to, the strength of team members and the nature of the project. According to Martonosi and Williams (2016), the capstone project helps students to think critically to solve the challenges faced, leading to teamwork and oral communication throughout the process. In regard to this, Keller also stated that students get motivated and improve their teamwork skills because they get to go through experiences similar to real-world challenges.

Milicevic, Balouchestani, Tihanyi and Behdinan (2015) also mentioned that the best way for a team to collaborate productively is by having a free and open line of communication, where they are able to share new ideas and take risks, and by reinforcing the positive feedback among team members. With this, they will be able to build trust, stay enthusiastic throughout the project and share knowledge through various disciplines.

## **Conclusion**

In general, the capstone project has proved to be beneficial in terms of having inclusive learning experiences and also being a platform for students to apply their skills and creativity. The outcome of the first research question highlights its strength through the evaluation, involving the supervision by the staff throughout the process, which has played a huge role in organising and administrating the production; and the resources through institutional assistance or support. The second research question highlights the development of holistic individuals through interaction with external resources as well as creativity by brainstorming and coming up with innovation. The third research question highlights the challenges faced by respondents, which include planning the work and the time constraints due to a heavy workload. The responses for the open-ended questions regarding the improvement of the project also interrelates with the third research question which focuses on time constraints of the initial planning of the production as well as the lack of guidelines for student reference.

The MEB emphasises that the higher education system should focus on the entrepreneurial mindset of moving from being job seekers to job creators and creating balanced citizens. Although the capstone project itself is not an easy task for any stakeholder, institution or organisation to handle, it serves as a training ground for students to have exceptional measures of knowledge and skills to live their life after graduation (Schewing, 2015). The music capstone project has also proved to develop soft skills such as team work, leadership, communication and entrepreneurship within and beyond the faculty borders to accomplish the project's goal and objectives. In addition, the main purpose of the project is to assist students in gaining experience before stepping into the working world.

In conclusion, this study highlighted the Malaysian higher education practices which emphasize on the development of holistic as well as skillful individuals in seeking employment in this challenging time. Although the final product in most of the music programme consists of thesis writing and internship, the capstone projects offers great opportunity for graduates to transit into open market by pursuing different career paths in the music industry. This final project also found a significant, value-added contribution in terms of theoretical and contextual aspects to the music graduates and institutions to go beyond limitations to increase student motivation and engagement in accordance to the current Malaysia Education Blueprint.

### Acknowledgements

The authors would like to extend their gratitude to the Research Management and Innovation Centre (RMIC), Universiti Pendidikan Sultan Idris (UPSI) for the University Research Grants (code: 2018-0111-106-01) that helped fund the research.

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