[For discussion]

LEGISLATIVE COUNCIL PANEL ON HOME AFFAIRS

**Progress Update of the Campus Expansion and Improvement Project
of the Hong Kong Academy for Performing Arts and
Plan to Enhance the Application of Technology**

PURPOSE

This paper updates Members on the latest progress of the project on the expansion and improvement of the Wanchai Campus of the Hong Kong Academy for Performing Arts (HKAPA), and HKAPA's plan to enhance the application of technologies in the performing arts education.

BACKGROUND

2.   In June 2012, the Finance Committee of the Legislative Council (LegCo) approved the upgrading of the capital project of the expansion and improvement of the Wanchai Campus of the HKAPA to Category A at the estimated cost of $444.8 million in money-of-the-day (MOD) prices. The objective of the project is to provide additional space and facilities to meet the learning needs of students and support the implementation of new academic structure of four-year undergraduate programme. The expansion and improvement project will provide additional teaching and learning space in the HKAPA to accommodate classrooms, studios, laboratories, music rooms, offices, workshops and support facilities, with a view to meeting the demands for more classes, lectures, rehearsals and interdisciplinary activities concurrently. The project also included redesigning and reconfigurating the library and conversion of the fountain pump room into administration office and a store room.

3.   Progress of the project was last reported to the LegCo Panel on Home Affairs (HA Panel) for information in March 2016. The progress report as at March 2016 is attached at **Annex A**.

PROGRESS UPDATE ON THE CAMPUS EXPANSION AND IMPROVEMENT PROJECT

4.   As reported to the HA Panel in March 2016, the construction works to convert the fountain pump room to provide additional floor space to accommodate offices and stores for the Internal Audit and the Administration departments was completed in February 2014. The library reconfiguration works to provide new facilities including a new Research Consultation Room and three seminar rooms have also been completed in October 2015. The new library, which provides a technology equipped environment that encourages research, self-learning, creative sharing and mobile learning, was reopened in November 2015.

5.   Construction works of the on-campus expansion (OCE) project, which involve amongst other things the construction of a new nine-storey building adjoining the existing Theatre block (the annex building), commenced immediately after the HKAPA has awarded the works contract in August 2014. The foundation works of the OCE project have been completed in December 2015 and the superstructure construction is underway. The estimated completion date of the OCE project remains to be the fourth quarter of 2017, same as our last report made in March 2016.

6.   To ensure that the OCE project will be completed according to the current schedule and within the approved budget, the HKAPA has been implementing additional measures to step up monitoring and keep the work processes under review to enhance efficiency of the project. For example, the HKAPA has been working closely with the contractor to re-arrange work sequence where appropriate to allow for some processes to be carried out simultaneously, adjust the operation hours for some work processes to achieve higher efficiency and further enhance coordination to ensure timely resolution of issues which may affect the overall progress of the project.

7.   Amongst other facilities, the following specialized laboratories will be provided in the annex building upon completion of the OCE project –

      (a) a **dance technology laboratory** to provide teaching space for dance students to develop compositional / choreographic works;

      (b) a **Chinese Opera studio** to provide the School of Chinese Opera with teaching, rehearsal cum mini-performance venue;

(c) a **drama project laboratory** to provide drama students with teaching and learning space that can replicate performance settings of industry standard;

(d) a **multi-media laboratory** to provide teaching and project space for Entertainment and Design Technology Programme and interdisciplinary projects; and

(e) a Theatre and Entertainment Arts **multi-purpose laboratory** to provide a computer laboratory and teaching space for theatre and entertainment arts students.

STRATEGIC REVIEW 2013-2023

8.		After funding approval by LegCo for the OCE project in June 2012, the HKAPA, as its on-going efforts to review and update its strategic development to take into account the changing global education environment and the performing arts industry, formulated a Strategic Plan 2013-2023 for the Academy. The Strategic Plan, endorsed by its Council in April 2013, recommended, amongst other things, the provision of a digital technology enhanced educational environment as a key priority of the Academy's strategic directions. In planning the OCE project, flexibility has been built in that allows future pursuit of this strategic direction.

9.		With the additional laboratories and studio to be provided under the OCE project as mentioned in paragraph 7(a) to (e) above, the HKAPA considers it desirable and beneficial to capitalize on the new spaces by installing additional professional equipment so as to apply new digital technologies and interactive media into performing arts education to meet the modern-day needs of performance arts education. The justifications for and details of HKAPA's plan to procure professional equipment are set out in the ensuing paragraphs.

APPLICATION OF TECHNOLOGIES IN PERFORMING ARTS EDUCATION

Existing application of technology in HKAPA

10.		Established in 1984, the HKAPA was technically resourced to a level that would have been "cutting edge" 20 to 30 years ago. Its

teaching, practice and rehearsal venues are fitted with equipment at the then prevailing level of technologies to support conventional and traditional performance requirements for Dance (ballet, Chinese and contemporary), music (Chinese and Western), Drama/Theatre, Chinese Opera, Film & Television, and Theatre & Entertainment Arts (Set & Costume Design, Scenic Painting, Sound & Lightning, etc). The Academy's equipment ranges from general equipment (such as audio-visual equipment, LCD projector and screen, computers and related accessories) to some basic specialized equipment to support teaching in skills for different performing arts disciplines (such as musical instruments, lighting systems, special floorings for dance studios, as well as filming equipment/cameras).

11.   When the OCE project was being planned in 2012, the capital cost of the project has included a budget for procuring equipment based on the existing specification for installation in the new spaces to be developed under the project.   Such facilities and equipment, even when upgraded to newer models as planned under the OCE project, still fall short of the latest industry requirements (see paragraph 12 to 14 below).   For example, HKAPA's rehearsal studios are furnished with basic facilities without professional lighting, sound or projection facilities.   They also do not have facilities for suspending technical equipment from the ceiling nor the necessary power supplies to support such equipment.   The lack of digital networking connections makes it infeasible to support digital collaborative technologies and learning pedagogies such as video conferencing with other partnering educational institutions or overseas scholars.   Currently, HKAPA students rely on the Academy's performance venues (i.e. the Lyric Theatre and the Amphitheatre) to take advantage of the more advanced technical resources and facilities available therein, or have to source technical resources from outside (e.g. from suppliers of professional equipment)*,* in order to gain hands-on experience in applying their acquired knowledge and techniques during student productions and performances.

Overseas Developments in Performing Arts Education

12.   Performing   arts   education   and   training   and   nurturing professional performing arts practitioners are characterized by the dual need for practice and theory, with each to be taught in varying proportions with   varying   purposes.   Experiential   learning   is   conducive   to   the integration of practice and theory and facilitates student's artistic, creative and   scholarly   development.   For   example,   to   respond   to   the   trend   of professional dance companies and choreographers to integrate technology

into their creations and produce hybrid performances that pair the real and the virtual, dance students will need to be trained to experiment and explore new creative paradigms in dance performance and choreography with the support of digital technology including sound and lighting systems. Another example is performance or collaboration in real-time between performing arts students in different locations in the form of a workshop which could not be made possible without the necessary technological support.

13. Overseas experience demonstrates that installation of specialized equipment which supports the application of digital technology for training use facilitates students in gaining first-hand experience in exploring the technology that are widely adopted/practised in the performing arts sector. Not only does it significantly promote practice as research and creative work, it also drives innovation and creativity for achieving artistic excellence which is central to the grooming of arts talents.

14. Moreover, traditional performance is drawing more and more of new technologies, utilising digital techniques and methods that can be applied to artistic productions and performance. For example, digital projection, images, and lighting are commonly used to create sets. There is also increasing use of computer-controlled sensors to correlate images with sounds in stage performances. These approaches enrich and enhance audience experience, by capturing the imagination of the audience in an innovative way. With such developments and innovations occurring in the global arts industry, it is important for the HKAPA, being the only degree-awarding tertiary education institution that provides professional training for performing arts practitioners in Hong Kong, to have the capability and necessary infrastructure to nurture graduates equipped with the skill sets, in terms of performance, production and creation, that can best meet the prevailing requirements of the arts and culture industry.

HKAPA's Programme cum Technical Review

15. To align its programmes with the needs and expectations of the industry and identify the specific professional equipment required for the delivery of the programmes, the six Schools[1] of the HKAPA conducted a programme cum technical review from 2012 to 2014. The review was

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[1] The six Schools of the HKAPA are the School of Dance, School of Music, School of Chinese Opera, School of Drama, School of Film and Television and School of Theatre and Entertainment Arts.

conducted having regard to the Academy's Strategic Plan (2013-2023) which highlighted a series of areas for enhancement, including the need to provide performance-based education and skills development through the use and integration of educational technologies to support innovative pedagogies and performance outcomes.   Research and benchmarking with overseas institutions has also been undertaken to identify appropriate strategies and the necessary resources for the provision of dedicated teaching and learning spaces equipped with up-to-date professional, industry standard equipment that supports performance-based education as well as those for artistic performances and production[2].

16.   The programme cum technical review drew heavily on consultations with the industry, collating information on industry expectations on the programmes offered by the Academy, technical systems currently employed by the industry, and recommendation for future developments of the performing arts sector.   The consultation reveals the major view that technology will increasingly play a key role in the performing arts industry.   Stakeholders consider it important for students to be exposed to the application of technology to optimize the experiential learning opportunities and innovative forms of performance. Technical resources should be made available to suit unique requirements of individual disciplines while supporting interdisciplinary collaboration.

17.   Taking into account the review, the Academy plans to provide additional specialised equipment for installation in the five new laboratories to be provided under the OCE project.   The proposal aims at providing a technically resourced teaching, practice and rehearsal space for the Schools concerned, so that the Academy can support modern digital teaching pedagogy and styles of performance that embrace technology as one of the key elements in the performance.

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[2]   The infrastructure and resources as identified in the University of Leeds Blended Learning Strategy, for instance, consisted of event capture system in central teaching spaces and at-desk for recording and publication of audio, screen capture and video; multimedia management system for storage, management and publication of audio and video assets; and video-conferencing and interactive classroom facilities for synchronous interaction and collaboration between teachers and students (University of Leeds, 2013).

PROPOSAL

18.   Details of HKAPA's proposal for procuring additional equipment for the Dance Technology Laboratory, Chinese Opera Studio, the Drama Project Laboratory, the Multi-media Laboratory and the Multi-purpose Laboratory respectively are set out below.

(i) Equipment for discipline-specific laboratories

19.   The range of professional equipment to be procured for installation in the **Dance Technology Laboratory, Chinese Opera Studio and Drama Project Laboratory** will enable students of the three Schools to create and present their work or projects in a venue resembling the theatre/performance setting and environment.   The HKAPA plans to provide additional computers and video and projection system, audio and lighting system, as well as rigging hardware in the three discipline-specific laboratories, and install network systems that connect all the other OCE laboratories.   Details description of the equipment and their major functions are set out at **Annex B**.

20.   With the laboratories well equipped with the necessary technical support, students could be accorded with the opportunities of experiential learning and practise their techniques in a setting reflecting more truly the actual performance venues.   Providing students with learning spaces and environment that mirror the workplace in which they will work and perform in the future helps enhance their competitiveness in employment seeking as well as facilitate their transition into the real world working environment upon graduation.   Apart from practicing of skills, the equipment will also help inspire new creative works by providing appropriate space and support for experimental projects.   Citing the Dance Technology Laboratory as an example, installation of systems that allow motion capturing will facilitate experimentation and digital documentation of work that are essential to inspire new development of compositional or choreographic works.

(ii)   Equipment for multi-purpose/multi-media laboratories

21.   To meet the needs of the sector and promote emerging and experimental performance results that reflect entertainment and cultural industries practices and processes, the HKAPA plans to make available specialized and professional technologies in the **Multi-Media Laboratory and Multi-Purpose Laboratory.**   The range of professional equipment to be procured include digital audio playback and recording system,

lighting, video and projection systems, motion control system, as well as other laboratory infrastructure. Details and the major functions of the equipment are set out at **Annex C**.

22. With the installation of the equipment to support the enhanced entertainment and design technologies programmes, students from different schools in HKAPA can gain hands-on experience and knowledge with industry standard equipment and explore new forms of performance. This will enhance their experience and better prepare the students for their professional careers.

23. Through the high quality computer network infrastructure, the laboratories and studio will also facilitate interdisciplinary and innovative teaching/ learning strategies, such as video conferencing, inter-institutional audio visual performances and collaborative projects. For example, the provision of learning space in the Multi-Media Laboratory and the Multi-Purpose Laboratory not only support the pedagogical needs of different disciplines, but also enhance collaborative learning among students in Drama and Theatre and Entertainment Arts disciplines.

Financial Implications

24. It is estimated that the provision and installation of professional equipment will require a total non-recurrent expenditure of $23.79 million, which will be included and reflected in the draft Estimates of the relevant financial years. The additional annual recurrent expenditure arising from the installation of the equipment, which is around $1.84 million will be absorbed with HKAPA's annual operating expenses. The costs of the equipment to be installed in each of the laboratory/studio are as follows –

Item	Cost (HK$M)
Dance Technology Laboratory	3.69
Chinese Opera Studio	3.15
Drama Project Laboratory	3.28
Multi-media Laboratory	8.23
Theatre and Entertainment Arts Multi-purpose Laboratory	4.67
Supply and Installation of Data Cables	0.77
Total	23.79

25.   The required cash flow is estimated as follows –

Year	Cost (HK$M)
2017-18	9.43
2018-19	14.36
Total	23.79

Procurement Timetable

26.   The OCE project is expected to be completed by end 2017.   To tie in with the construction and move-in schedule, the HKAPA plans to implement the equipment procurement and installation in three batches, with a view to commissioning the use of the new equipment by phases from October 2017 to January 2018.   HKAPA plans to conduct the procurement according to the following schedule –

Activity	Target completion date
Tender invitation	April - July 2017
Evaluation of tender and award of contract	June - September 2017
Delivery	September - December 2017
Installation and commissioning	October 2017 - January 2018

ADVICE SOUGHT

27.   Members are invited to note the content of this paper and to advise on HKAPA's plan to enhance the application of technologies in the performing arts education.

Home Affairs Bureau
November 2016

For information

LEGISLATIVE COUNCIL PANEL ON HOME AFFAIRS

**Progress Report on the Expansion and Improvement Project
of the Wanchai Campus of the
Hong Kong Academy for Performing Arts**

PURPOSE

This paper updates Members on the latest progress of the project of the expansion and improvement of the Wanchai campus of the Hong Kong Academy for Performing Arts (HKAPA).

BACKGROUND

2. In June 2012, the Finance Committee of the Legislative Council (LegCo) approved the upgrading of the capital project of the expansion and improvement of the Wanchai campus of HKAPA to Category A at the estimated cost of $444.8 million in money-of-the-day (MOD) prices. The objective of the project is to provide additional space and facilities to meet the learning needs of students and support the implementation of new academic structure of four-year undergraduate programme.

3. The scope of the campus expansion and improvement project comprises the following component:

> (a) An on-campus expansion (OCE) project, with the construction of :
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> > i. a nine-storey building block adjoining the north-eastern side of the existing Theatre Block (the annex building). This will accommodate classrooms, studios, laboratories, music rooms, offices, workshops and support facilities (e.g. mechanical and electrical rooms, toilets, dressing rooms, storage areas). The new annex building will also include a chiller plant room for the installation of an air cooled chiller to enhance the reliability of air-conditioning system of

the whole Wanchai campus;

    ii. a one-storey lightweight structure on the flat roof over the existing Concert Hall, Lyric Theatre, TV Studio and Recital Hall at the Theatre Block. The structure will accommodate studios, laboratories, office and support facilities (e.g. dressing rooms and storage areas);

    iii. an additional floor at upper level of the void space over the existing Scenic Art Workshop on UG/F of the Theatre Block. The additional floor will accommodate classrooms and storage areas;

(b) conversion of the existing fountain pump room into an administration office and a store room; and

(c) redesign and reconfiguration of the existing library including establishment of learning commons with group study rooms.

PROGRESS UPDATE

Conversion of the existing fountain pump room

4.   The construction works to convert the fountain pump room (paragraph 3 (b) above) was completed and the new premise was put to use in February 2014. Taking advantage of its high headroom, an additional floor was built above the existing pump room to provide two floors of additional space. Upon completion, it delivered a total of approximately 100 square metres (m^2) of office and storage space to accommodate the offices for the Internal Audit and the Administration departments on the ground floor of the original location of the fountain pump room. A store room has also been provided in the basement of the original location of the fountain pump room.

Redesign and reconfiguration of the existing library

5.   The library reconfiguration works (paragraph 3(c) above) has also been completed in October 2015 and the library was reopened in November 2015. The lower floor of the library has been re-organised into clusters, dedicated to book spirals, audio and visual materials and

other mixed media.   A new Research Consultation Room, equipped with advanced information technology equipment, is conveniently located on the lower floor where individual consultation on research works can be provided.   This project has also created an additional floor in the library which houses three seminar rooms, all equipped with IT and audio and visual equipment for presentation or group discussion with a Learning Commons located next to these facilities.   The new library facilities encourage research, self-learning, creative sharing and mobile learning in technology equipped environment.   Photos of the library after completion of reconfiguration works are at **Annex**.

Progress of the OCE project

6.   As regards the OCE project (paragraph 3(a)), the construction works had commenced in August 2014 and is expected to be completed by the fourth quarter of 2017.   The schedule for the OCE project could not meet the original completion target (the fourth quarter of 2015) because it had taken the HKAPA more time to complete the preparatory work during the pre-tender stage, as explained below.

7.   Following LegCo's funding approval in June 2012, the HKAPA proceeded to the preparation of tender, including conducting a pre-tender assessment.   The pre-tender assessment completed in late 2012/early 2013 indicated that the pre-tender estimate was higher than the original estimate and might exceed the Approved Project Estimate (APE) of $444.8 million.   In order to contain the cost of the project within the APE, invitation of tenders for the OCE project, which was originally scheduled for January 2013, was deferred so as to allow the Government and the HKAPA to conduct a value re-engineering exercise.   HKAPA also reviewed the tender drawings having regard to the value re-engineering exercise before submission to the Government for approval.

8.   The global education environment and the performing arts industry have been dynamic and evolving.   There is a need for HKAPA to review and update its strategic development from time to time with a view to providing a clear pathway for the Academy's future development and to harness the education opportunities brought about by technological advancement.   The Strategic Plan 2013-2023 for the HKAPA was formulated and endorsed by the Council in April 2013.   It recommended, amongst other things, the provision of a digital technology enhanced educational environment as a key priority in the strategic directions.   As the HKAPA was reviewing the tender drawings over the value

re-engineering exercise at that juncture, it considered that there was room to optimise the facilities and provisions under the OCE project to facilitate the achievement of this strategic direction.

9.   To take into account the results of the value re-engineering exercise so as to reduce the project cost and to build in flexibility in the OCE project to allow future pursuit of the strategic direction of providing a digital technology enhanced educational environment, the tender drawings for the OCE project were revised in mid-2013. The HKAPA eventually invited tenders for the main contract of the OCE project in October 2013. Unfortunately, when tenders were returned in December 2013, the returned tender prices were still higher than the revised estimates in spite of the efforts made in value re-engineering and cost cutting.

10.   In consultation with the Government, the HKAPA carefully explored various options to take forward the project. In order to proceed with the project within the APE, and to avoid further delays to the project, HKAPA had formulated a cost containment proposal. Under the proposal, the component to construct a one-storey lightweight structure on the roof of the Theatre Block (paragraph 3(a)ii) was not pursued. As a result, the original total construction floor area of 10,889 m^2 of the entire campus enhancement and improvement project is reduced by about 10%. As the key elements of the OCE project, i.e. the construction of the nine-storey building block (paragraph 3(a)i) and an additional floor over the existing Scenic Art Workshop at the Theatre Block (paragraph 3(a)(iii)), as well as other deliverables (paragraph 3(b) and (c)) would continue to be implemented, the minor change to the scope of the project will not affect the delivery of the intended functions of the OCE project (i.e. providing additional space by constructing the annex building and maximizing the structural capacity of the existing premises). Some of the originally planned studios, laboratories, office and support facilities to be housed in the one-storey light weight structure will be accommodated in the nine-storey block such that the overall types of facilities to be provided under the project will not be compromised. The adjustment represents a pragmatic solution in face of the resource constraints, while increasing the teaching and learning spaces for HKAPA as soon as practicable. The cost containment proposal was accepted by the Government.

11.   The contract for the OCE project was awarded in August 2014, with construction works commenced in the same month. Upon completion of the piling stage, works have been progressing well and the

OCE project is targeted to be completed by end 2017. Measures have been implemented by the HKAPA to ensure timely completion of the project. HKAPA has stepped up monitoring the critical path and milestone dates of the contractor's programme, and maintained proactive liaison with its consultant and contractor. For example, weekly technical meetings with contractor have been held to identify and resolve critical issues which might adversely affect the project cost and programme, and HKAPA has also enhanced coordination with the contractor for early submissions of materials such as complicated works procedures for early review and approval. The Home Affairs Bureau will continue to closely monitor the progress of the project through quarterly reports from HKAPA and close liaison with the project team.

ADVICE SOUGHT

12.   Members are invited to note the latest progress of the project of the expansion and improvement of the Wanchai campus of the HKAPA.

Home Affairs Bureau
March 2016

Photos Taken After Completion of
the Redesign and Reconfiguration of the Existing Library
in the Hong Kong Academy for Performing Arts

Lower Floor of the Library
Reorganised into different clusters (book collections, audio, visual materials and other mixed media), and equipped with a new Research Consultation Room.

Library Entrance

Information Commons

Book Collections

Research Consultation Room
(where individual consultation on research work can be provided)

Additional Floor of the Library

Houses three Seminar Rooms, all equipped with information technology, audio and visual equipment for presentation or group discussion with a Learning Commons located next to these facilities.

Seminar Room A

Seminar Room B

Seminar Room C
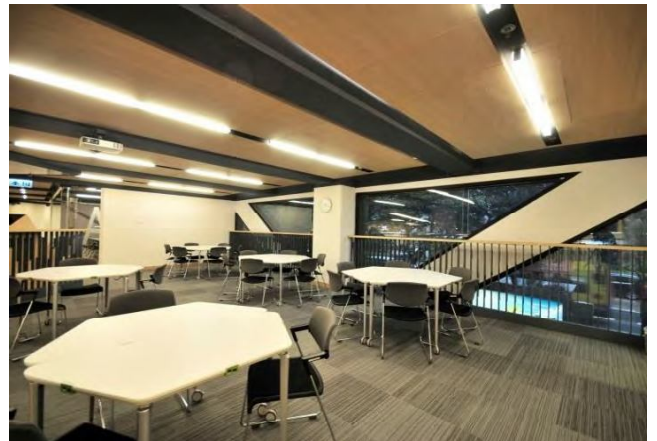
Learning Commons

(Some photos taken by Barrie Ho Architecture Interiors Ltd)

Proposed equipment for discipline-specific laboratories

A : Dance Technology Laboratory

Proposed equipment	Major Functions
Audio and video playback system • A single computer with appropriate software and interfaces • A digital sound console (balance the sound to multiple speakers) **Lighting system** • A lighting control console (allow the design and control of multiple LED light fixtures) **Room infrastructure** • A flexible truss and chain-hoist system (facilitate adaptable rigging of projection screens, cloths, projectors, lighting and sound systems) • A series of drapes to allow the room to be blacked out	- Enables the synergies of dance and choreography with advanced video capture, projection, lighting and sound technologies. - Enables experimenting and creating industry-standard dance performance, and mirrors the rapid expansion in use of technology in supporting international multi-media dance presentation.

B : Chinese Opera Studio

Proposed equipment	Major Functions
Audio and video playback system • A single computer with appropriate software and interfaces • A series of sound playback systems (CD/Cassette/Blu-ray) and a set of 8 wireless microphones • A digital sound console (balance	- Provides opportunities for exploring and experimenting light, sound and projection systems, in performance as well as support practice as research into the applications of actual and virtual technologies in the Chinese Opera performance. It is a strategic reinvigoration approach for this significant

Proposed equipment	Major Functions
the sound to multiple speakers **Lighting system** • A lighting control console (allow the design and control of multiple LED light fixtures) **Video and projection system** • A high definition projector and computer interface with a projection screen **Room infrastructure** • A series of drapes to create wing space and a backstage area	traditional art form in contemporary performing arts development. - Enables the studio to function as a black box-typed performance venue and provide mini performance venue for dress rehearsals.

C : Drama Project Laboratory

Proposed equipment	Major Functions
Audio and video playback system • A single computer with appropriate software and interfaces • A digital sound console (balance the sound to multiple speakers) **Lighting system** • A lighting control console (allow the design and control of multiple LED light fixtures) **Video and projection system** • A high definition projector and computer interface plus a package of cameras	- Provides a rehearsal space supported by lighting, sound and projection systems to facilitate arts creation between the performer and the lighting and sound environment, for example, to explore choreographic possibilities between the performer and technology. - Offers scope for screen and physical drama integration or experiment, production lighting and sound design capability. - Provides space for text and script work, basic stage positioning and actors blocking in an environment with adjustable lighting and sound; and production meetings.

**Proposed equipment for enhanced entertainment
and design technologies programmes**

A : Multi-media Studio

Proposed equipment	Major Functions
Audio and video playback system • 2 Mac and 2 Windows computers with appropriate software and interfaces. (Software is common with existing systems in other Entertainment Design Technology spaces) • A series of audio interfaces and digital converters plus microphones • A digital sound console that will balance the sound to multiple speakers **Lighting system** • A lighting control console that will allow the design and control of multiple LED light fixtures. **Video and projection system** • A package of cameras, a graphic processor and video mixer **Multi Media system** • A media server playback system plus switchers and distribution equipment **Motion Control system** • A control system to integrate chain hoists and other stage automation systems **Room infrastructure** • A series of drapes to create wing space and a backstage area • Provision is made for	- Enables projects comprising elements such as projection, 3D mapping, lighting, sound and motion control at a level of an experimental theatre performance. - Supports an immersive lighting, sound and video environment where stage scenery can move in three dimensions. - Provides a performance space that can support collaborative projects with other Schools and/or regional and international institutions.

Proposed equipment	Major Functions
installation of network systems within the studio and between the other OCE laboratories	

B : Multi-purpose Laboratory

Proposed equipment	Major Functions
Audio and video playback system • Four computers with appropriate software and interfaces. (Software is common with existing systems in other EDT spaces) • A digital audio recording system • A digital sound console that will balance the sound to multiple speakers **Video and projection system** • Two high definition projectors and computer interfaces plus a video mixer and graphic processor. **Room infrastructure** • Provision is made for installation of network systems within the studio and between the other OCE laboratories	- Equips students with the necessary intermediate and advanced skills in digital production visualization, visual image manipulation, graphics creation and motion and systems control - Serves as a control room for projects and performances in the Multi-media Laboratory and Drama Project Laboratory (which are adjacent to the Multi-Purpose Laboratory and the three can be combined as a single unit) and for music recording projects with musicians in the Drama Project Laboratory. - Provides teaching space for technical systems and small-scale experimental projects.