



A group picture of teaching staff at the East China University of Science and Technology



Macao teaching staff visited the Southwest University

#### (10) Study visit of middle and senior management personnel of schools to Hong Kong for “applied learning”

In order to enable the middle and senior management personnel of schools to understand the development trend of “applied learning” in the neighbouring region, the DSEJ organised a total of 58 persons-in-charge from 34 schools in Macao to visit and exchange in Hong Kong, so as to observe the latest situation of Hong Kong education in promoting students to apply technologies, innovative ideas and potential development.

## 2. Promoting the development of teaching materials, establishing the teaching and research platform

### 2.1 Continuously implementing curriculum reform

In the academic year 2018/2019, curriculum reform advanced to Junior 2 (Form 2) and Senior 2 (Form 5). Through the implementation of “Curriculum Framework for Formal Education of Local Education System” (hereinafter referred to as the “Curriculum Framework”) and the Requirements of Basic Academic Attainments for Formal Education of Local Education System (hereinafter referred to as the “Requirements of Basic Academic Attainments”), while reducing students’ unnecessary study burden, it ensures their most basic development in knowledge, skills, abilities, emotions, attitudes and values, thus improving the overall quality of non-tertiary education in Macao.

Through promulgating the Dispatch of the Secretary for Social Affairs and Culture No. 69/2018, the specific content of the requirements of basic academic attainments for the subjects of Geography and History of junior and senior secondary education levels was defined to further assist teaching staff in carrying out specific teaching activities, so as to cultivate students’ love for Macao and their country as well as provide schools with a guarantee for setting up separate subjects for History and Geography.

Various types of teacher training were continuously organised. In 2018, about 80 training activities were carried out, such as study courses, thematic lectures, workshops, teaching demonstration and so forth to improve the professional capacity of teaching staff in implementation of curriculum reform. Over 2,100 teaching staff (by frequency) participated in these training activities.

## 2.2. Trial implementation of the special education curriculum guidelines

In order to provide systematic teaching objectives and areas to teachers teaching in special education classes and special education small classes, the DSEJ started to develop special education curriculum in 2016. In 2017, the learning ability progression ladders for “Chinese Language” and “Mathematics” were completed and the supplementary guidelines for the respectively subjects were set up. In 2018, the learning ability progression ladders for the areas of “General Studies, Science and Humanities”, “Physical Education and Health”. “Information Technology” and “Arts” were completed and the supplementary guidelines for the related subjects were set up. In 2019, teacher training and school visits will be carried out. The guidelines are expected to serve as a reference for all the schools offering special education classes and special education small classes in the academic year 2019/2020.



Special education teachers from different schools participating in the sharing session on special education course

## 2.3 Continuously promoting the development of the local teaching materials

### (1) Teaching materials of Moral and Civic Education

The DSEJ completed the revision of the teaching materials of *Moral and Civic Education (Revised Edition)* for primary schools and put it into use in the academic year 2016/2017. In order to continuously optimise schools' teaching resources for Moral and Civic Education, in particular, to support the implementation of the *Requirements of Basic Academic Attainments* for junior and senior secondary education levels, the DSEJ completed the revision of the teaching materials of *Moral and Civic Education (Trial Version)* for junior secondary schools in 2018. Meanwhile, the DSEJ also officially initiated the revision of the teaching materials of *Moral and Civic Education (Trial Version)* for senior secondary schools. The revision of the teaching materials for senior secondary schools is expected to be completed and to be used in the academic year 2019/2020.

### (2) History teaching materials

The *Macao History Teaching Materials (Trail Versions)* were compiled on the basis of the Requirements of Basic Academic Attainments for Junior and Senior Secondary History; the two volumes of the history textbooks for Form 1 students, as well as the four volumes of *Chinese History (Compulsory)* and *World History (Compulsory)* for senior secondary students were published in 2018 for schools to use in the academic year 2018/2019. The editing of the two volumes of History textbooks for Form 2, the *Senior Secondary Economic and Social Life (Selective)* and *Senior Secondary International Relationship and Globalisation, Regional Cooperation (Selective)* has started; the remaining volumes will also be developed in an orderly manner.



Demonstration class of new junior secondary History teaching materials

### (3) Primary General Studies teaching materials

The compilation of the teaching materials of General Studies for primary schools was basically completed. The whole set of teaching materials includes student textbook and teachers' books as well as the manuals; there are 2 volumes for each grade. The DSEJ maintained close communication with the professional publisher. The teaching materials for Primary 1 and Primary 4 are expected to be published in 2019 for schools to use in the academic year 2019/2020, and those of other grades will be published in an orderly manner.

### (4) Portuguese teaching materials

Based on the *Requirements of Basic Academic Attainments* for Portuguese of primary education, the DSEJ revised the Portuguese teaching materials for primary school by referring to the common European Language Standards. The related teaching materials consists of six volumes, the whole set of teaching materials is expected to be published in the academic year 2019/2020.

### (5) Putonghua teaching materials

According to the *Requirements of Basic Academic Attainments* and the standards of the Putonghua Proficiency Test of the State Language Work Committee, the brand-new teaching materials of Putonghua were designed, compiled and published in Macao. The whole set of teaching materials includes teachers' books and student textbooks, falling into the basic, intermediate and advanced levels. There are two volumes for each of the teaching levels. There are a total of 6 volumes for teachers and another 6 for students; it is expected to be available in the academic year 2020/2021.

### (6) Chinese Language teaching materials

In accordance with the *Requirements of Basic Academic Attainments* for primary, junior secondary and senior secondary Chinese Language, the DSEJ commissioned a professional publisher and Macao teachers to compile a set of Chinese Language teaching materials for primary to senior secondary education levels. Based on Chinese culture, the teaching materials have the cultural characteristics of Guangdong and Macao, which aim to promote the combination of Chinese teaching with Macao culture, strengthening students' sense of belonging to Macao. The relevant teaching materials for Primary 1 and Primary 4 are expected to be used in the academic year 2019/2020; the compilation of teaching materials for secondary education level will start in the same academic year.

## 2.4 Conferring the “Distinguished Teacher” honour and the awards of “Award Scheme on Instructional Design”

### (1) The “Distinguished Teacher” honour

In accordance with the provision of Law No. 3/2012 - *The System Framework for Private School Teaching Staff of Non-tertiary Education*, the Teaching Staff Professional Committee evaluates the teaching staff of private schools for their excellent work performance and outstanding performance in teaching and professional conduct in the previous academic year and award the “Distinguished Teacher” honour to 15 teachers in recognition of their outstanding performance in education work.

The 15 teachers awarded the “Distinguished Teacher” honour in the academic year 2017/2018 are as follows (in alphabetical order): CHAN TONG TONG, CHAN WAI KIN, CHEONG KA CHON, CHUNG WAI LING, FAN IN LENG, HO PUI KAI, HO WENG SI, IP HONG SENG, KUONG LAI LAI, LEONG CHI HANG, LEONG IO WA, LEONG TENG KONG, LIANG YIXING, WONG CHIO MUI and WONG NGAI HONG. At the award ceremony of the “Distinguished Teacher” honour, the video of the acceptance speeches of the awardees were played. They, together with the special guests, shared their passion for education and their professional spirit as well as their experiences in educating students. The scene was touching and inspiring. The awarded teachers have become the role model with their outstanding performance, encouraging all teachers to “maintain the enthusiasm of educating people”.



Award ceremony of the “Distinguished Teacher” Honour for the school year 2017/2018



Group picture of the awardees of the “Distinguished Teacher” Honour for the school year 2017/2018 with the officiating guests

### (2) Awards of “Award Scheme on Instructional Design”

The DSEJ has organised the “Award Scheme on Instructional Design” since 1996. It aims to improve teachers’ professional competency, enhance their ability to develop curriculum and teaching materials as well as conduct teaching research, promote creative thinking teaching and academic research activities, as well as enhance teaching effectiveness through sharing.

The “Award Scheme on Instructional Design 2017/2018” received 595 entries from 798 teachers of 42 schools, the evaluation is in process and the list of awardees is expected to be released in April, 2019.

For the “Award Scheme on Instructional Design 2018/2019”, the “Teaching Achievement Project”, the “Love for the Country and Home” Award and the category of “Secondary Education” for “Teaching Aids Project” were added.

## 2.5 Promoting school research development

In 2018, the training course “Macao Teaching Staff Curriculum Leadership and Development of Teaching Research System” was organised for the first time. The DSEJ organised 28 Macao teaching staff to join a 6-day intensive training course at the Studies and Training Centre for Researchers at the East China Normal University, so as to broaden the participants’ views through systematic training activities which combined theories with practice, further enhance the professional capacity of Macao teaching staff to implement curriculum reform and to develop educational research activities, as well as promote the building of school-based and cross-school platforms for teaching and research exchange among the trainees.



Participants of the training course actively discussed and exchanged their experience in educational studies

The DSEJ continued to carry out the “Exchange Programme of Outstanding Teachers from Mainland China to Macao”. 30 outstanding teachers from mainland China were organised to schools in Macao to carry out exchange in the teaching of Chinese, Mathematics, History and Geography as well as infant education. Through this programme, the culture of mutual class observation and open class teaching was gradually established; inter-school class observation was launched in an orderly manner; the mechanisms of preparing lessons and conducting teaching research together were formed, and advanced teaching concepts were successfully introduced from mainland China to Macao, thus making great achievements in promoting the professional development of teachers. In the academic year 2017/2018, 24 training courses and workshops for teaching staff and 10 teaching demonstrations were organised for about 2,700 teaching staff (by frequency).



Teaching demonstration of the “Exchange Programme of Outstanding Teachers from mainland China to Macao”

## 2.6 Continuously advancing the development of education informatisation

The Education Development Fund clearly stated the development directions of “Education and internet +” in the application regulations for the “School Development Plan” for the academic year 2018/2019, guiding and encouraging schools to deeply integrate information technology into education, pushing forward the innovation of education philosophy and teaching mode, thus helping students develop innovation ability and comprehensive competence. In the academic year 2018/2019, the DSEJ subsidised 50 projects, including STEM/STEAM/STREAM teaching, e-education interactive teaching, exploration of adaptive learning and development of electronic education resources.

### (1) Innovative information platform

The “innovative information platform” is a constant space for innovative teaching experience and sharing, the themes and content are updated regularly. The theme for 2018 was “STEM Teaching Cases – Cultivation of Computational Thinking and Creativity”. Through relevant teaching cases, it is hoped that teaching staff would be inspired to apply the STEM philosophy and elements in teaching, cultivating students’ quality in computational thinking, innovation and creativity as well as problem-solving ability and so forth. The sharing session on STEM teaching cases was organised to deepen teaching staff’s understanding of the core ideas of the teaching cases, the teaching elements and the foci of students’ capacity development through the sharing of the teachers-in-charge. There were 127 participants in the sharing session.



Sharing session on STEM teaching cases

### (2) Information technology training activities

Since 2011, the DSEJ has organised many counselling activities related to the themes of internet trap prevention, internet addiction prevention, proper use of internet information, etc. for students, teachers and parents through school-based counsellors or by sending instructors to schools. In the academic year 2017/2018, a total of 51 activities of related themes were organised, attracting 2,748 students (by frequency) to participate. The Education Development Fund financed schools to hire information technology education staff. There were 90 school units applying for the subsidy in the academic year 2018/2019 and the DSEJ continued to provide the staff with 120 hours of special duty training courses. In terms of teaching staff training, programmes and exchange activities in the areas of simple interactive ebook production, cloud computation foundation, e-learning simulation class, 3D printing, STEM and Maker Education were organised, aiming at enhancing teaching staff’s understanding and ability to apply information technology in teaching.

In order to enable Macao teaching staff to learn from the experience of Shenzhen in promoting Maker Education and understand the current development in the related field, the DSEJ organised 33 principals and teaching staff to Shenzhen for Maker Education learning and exchange in October, 2018. The Deputy Director of the DSEJ, Mr. Kong Chi Meng and Department Head, Mr. Wong Kin Mou were the head and the deputy head of the delegation respectively. On the morning of 15<sup>th</sup> October, the delegation visited four schools and institutions in Shenzhen; there they visited the Maker Education facilities and observed class teaching. They also exchanged experience with the school staff as well as listened to students' sharing of the influence of Maker education on them.

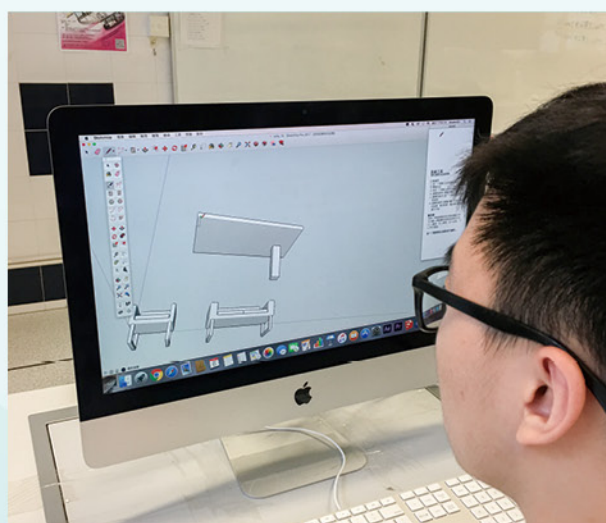
To meet the learning needs of residents and help them use information technology wisely, the DSEJ continued to organise various information technology related application courses and workshops. A total of 20 relevant activities were carried out in 2018, with the participation of over 300 residents (by frequency). Besides, the SAR Government launched the third phase of the "Continuing Education Development Plan" on 11<sup>th</sup> April 2017 to encourage residents to seek further study. As of 31<sup>st</sup> December 2018, participating institutions had run over 1,300 information technology related courses and certification examinations, benefiting more than 13,000 persons (by frequency).



Group photo of the Maker Education Delegation with the Maker Institute, CAS

### (3) "Teaching Programme of Internet Technology Application" of Escola Luso-Chinesa Técnico-Professional

In order to continue the "Teaching Programme of Internet Technology Application" initiated in the academic year 2017/2018, the Escola Luso-Chinesa Técnico-Professional continued to carry out the teaching of Google cloud platform application in all senior secondary curriculum and used the Google G Suite Education service in the academic year 2018/2019. Meanwhile, on the basis of past experience, 3D printing technology continued to be taught and students' learning result is very satisfactory. In order to be in line with the school-based teaching characteristics, The Code.org platform for the teaching of programming was continued to be used for the teaching of programming in Form 1



Student participating in the "Teaching Programme of Internet Technology Application" performed 3D modelling

(accounted for 15% of the teaching contents of the academic year), Form 2 and Form 3 students were taught how to program on the Scratch platform (accounted for 20% of the teaching contents of the academic year). Students could use the cloud technology to learn to write, store, execute and share programmes.

#### (4) Special evaluation on Information Technology Education

In 2018, the DSEJ commissioned the Singapore National Institute of Education International (NIEI) to carry out "Information Technology Education Special Evaluation". Through the measures of completing questionnaires, collecting classroom teaching plans, conducting school observations, class observation and interviews, the special evaluation was carried out in an orderly manner, so as to review the implementation of Information Technology Education in primary and secondary education levels in Macao, enabling the Macao SAR Government's education administration to obtain more objective and scientific information for reference to improve the Information Technology Education, further enhance the teaching and learning effectiveness of the schools in Macao and raise the comprehensive competitiveness of students.

In December 2018, a total of 60 schools (78 school units) participated in completing the student and teacher questionnaires as well as provided information on teaching cases. Besides, the commissioned researchers visited 8 schools and conducted field observation of the facilities of Information Technology, learning environment and utilisation of information Technology in teaching.

#### (5) Science and Technology Cooperation and Exchange Activity for Beijing and Macao Secondary Students

To promote the online exchange between students in Beijing and Macao, the DSEJ, the Macao Science Center and Beijing Municipal Education Commission have jointly organised the "Science and Technology Cooperation and Exchange Activity for Beijing and Macao Secondary Students" since 2009, targeting at the Form 4 and Form 5 students of both cities. The activity in the academic year 2017/2018 was held in Macao, with the theme of "Smart City". Each city selected 4 schools to participate in the activity. The delegation of each city was composed of 8 students and 1 teacher. Through various forms of internet communication, the participants conducted discussions and researches, they cooperated to create a thematic website that could be interconvertible between traditional Chinese and simplified Chinese.



Students from Macao and Beijing got together to participate in the Science and Technology Cooperation and Exchange Activity for Beijing and Macao Secondary Students



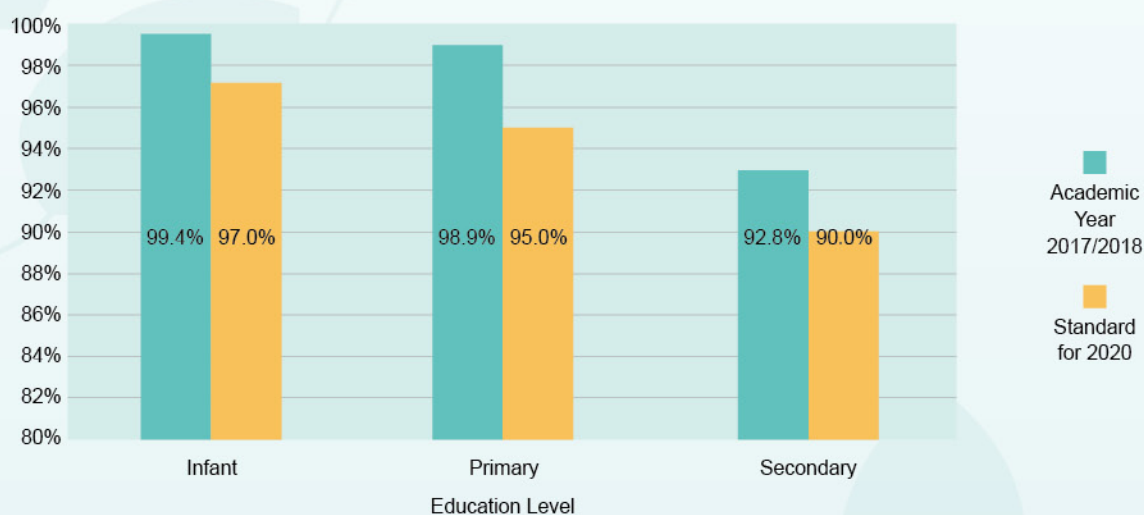
## 2.7 Promoting the professional development of teaching staff

### (1) Enhancing the professional level of teaching staff

In order to improve teachers' professionalism, the DSEJ continued to cooperate with tertiary education institutes to offer various teacher training degree programmes and training courses. The DSEJ also provided tuition subsidy to in-service teachers who met the requirements, so as to create conditions to help them improve their professional qualifications and competence. In the academic year 2017/2018, a total of 556 teaching staff attended the teacher training programmes for infant and primary education, of which 54 teachers were granted with subsidy; 161 teaching staff attended the teacher training programme for secondary education, of which 44 teachers were subsidised; and 67 teaching staff attended the teacher supplementary programmes for infant and primary education, of which 37 teachers were subsidised.

Apart from that, in accordance with the *Tuition Subsidy Regulations for Taking Education Programmes and Teacher Training Programmes*, people who take such programmes/courses must be in-service teaching staff. For attendees who are not in-service teaching staff, they must work as a teacher in a school of non-tertiary education in the following academic year immediately after completing the aforesaid subsidised programmes/courses. Those who meet the criteria can apply to the DSEJ for tuition subsidy on their own. According to the aforesaid individual applications, there were 58 teachers completing the teacher training programmes for infant education, 83 teachers completing the teacher training programmes for primary education, 8 teachers completing the teacher training programmes for secondary education in the academic year 2016/2017 and became teachers in the following academic year, i.e. the academic year 2017/2018, and all of them were granted the tuition subsidy.

**Figure 9: Proportion of teachers with teacher training qualification and the expected goal**



Note: As mentioned in the "Strengthening the building of the teaching team" in the *Ten-year Plan for Non-tertiary Education Development (2011-2020)*, it is necessary to enhance the professional standard of teachers, till 2020, the percentage of teaching staff with pedagogical training in infant education, primary education and secondary education are expected to reach 97%, 95% and 90% respectively.

### (2) Training for new teachers

The DSEJ continued to carry out the "Training Programme for New Teachers" in 2018 in order to help new teachers adapt to the new teaching environment. Taking into account the training needs of teaching staff whose native language is not Chinese, in the academic year 2017/2018, the

English class of “Training Programme for New Teachers” was added. The training topics included Macao’s laws and regulations and the educational work, the national conditions education, the professional development and obligations of teaching staff, curriculum development in Macao and construction of the school-based research system, student management and practice, high-efficiency classroom and the art of parent-teacher cooperation, caring for the school and positive psychology. The DSEJ staff and experienced educators were invited to conduct the training sessions, which were attended by 192 new teachers in total.

### (3) Sabbatical for further studies, off-the job training and school-based training

To enable schools to design appropriate training programmes for their teachers according to the school’s characteristics, mission and development needs, the DSEJ continued to carry out the “School-based Training Subsidy Scheme” through the School Development Plan under the Education Development Fund. 23,930 teachers (by frequency) took part in school-based training programmes in the academic year 2017/2018. Besides, the Education Development Fund continued to carry out the “Sabbatical for Further Studies Programme” and the “Off-the-job Training Programme”, with the goal of supporting teaching staff to temporarily suspend their teaching duties and take part in professional development activities more attentively and later apply what they have learnt to the development of school curriculum, teaching and assessment so as to enhance teaching effectiveness. In the academic year 2017/2018, a total of 16 teaching staff participated in Off-the-job Training Programme, and the total amount of subsidy was MOP 227,200.

### (4) Assisting teaching staff to obtain certifications in languages and professional competence

In order to improve the language level and professional competence of teaching staff, the Education Development Fund continued to encourage and support teaching staff to participate in language and professional competence certification examinations through the subsidy scheme, so as to optimise their teaching effectiveness. The number of teaching staff applying for relevant certification examinations in the academic year 2017/2018 was approximately 120 (by frequency).

### (5) Training for school leaders and senior and middle management personnel

The DSEJ has organised the “Training programmes for School Leadership and Senior & Middle Management Personnel” since the academic year 2011/2012. As of the academic year 2017/2018, there is a cumulative participation of 762 teaching staff in these two programmes, ensuring that these people receive basic professional training before they take up their posts so that they can tap into the full potential of their professional leadership and administrative skills. In order to strengthen the understanding and mastery of the new trend of education and the national conditions of Macao non-tertiary school leaders so that they can better lead the development of school curriculum and teaching, 17 school leaders were organised to go to the National Academy of Education Administration in Beijing for a 5-day training programme in the academic year 2017/2018.

### (6) A Date with Teachers

In order to listen to the thoughts of teaching staff and enable them to exchange experience with each other, the DSEJ organised three forums titled “A Date with Teachers” in 2018, where teaching staff shared their valuable experience and expressed their views on different themes in an enthusiastic atmosphere, attracting the participation of 183 teachers (by frequency).

**Table 10: Forums of “A Date with Teachers” in 2018**

No.	Date	Theme	Speaker and guest	Number of participants
1	17 <sup>th</sup> April	How teachers can help students learn successfully	<ul style="list-style-type: none"> <li>- Wong I Lin, Coordinator of School Inspection of the DSEJ</li> <li>- Chan Kin Pong, Principal of Kwong Tai Middle School</li> <li>- Lam Kai Fai, Principal of Escola Dom Luís Versíglia</li> <li>- Cheong Chi, Principal of Escola Ilha Verde</li> <li>- Vong Kuok Leong, Coordinator of Santa Madalena School</li> <li>- Chooi Fong Meng, Coordinator of Santa Maria Mazzarello School</li> </ul>	65
2	4 <sup>th</sup> July	Perspectives for Education and Youth Work: Looking to the future, how teachers achieve professional development?	<ul style="list-style-type: none"> <li>- Tang Wai Keong, Functional Head of the Office of the Leaders of the DSEJ</li> <li>- Fong In Fan, Former public school principal</li> <li>- Leng Weng San, Coordinator of Pedagogical Affairs of the Escola Secundária Luso-Chinesa Luís Gonzaga Gomes</li> <li>- Fu Lam Kam, Secondary school teacher of the Our Lady of Fatima Girls' School</li> <li>- Cheong Ut Seong, Secondary school teacher of Choi Nong Chi Tai School</li> <li>- Ng U Teng, Teacher of Escola Estrela do Mar de Macau</li> <li>- Ng Man Yun, Head of School Affairs of Sacred Heart Cannossian College-Macau (English Section)</li> <li>- Chung Chon Fai, Teacher of Pui Ching Middle School</li> <li>- Ip Ieng Hong, Group Leader of Kao Yip Middle School (Primary and Kindergarten) Branch</li> <li>- Pui Seng In, Teacher of Pooi To Middle School</li> <li>- Lo Lai Pen, Primary school teacher of the International School of Macau</li> </ul>	73
3	4 <sup>th</sup> October	A Frank Dialogue with the Director – How young teachers can carry forward the excellent Chinese traditional culture	<ul style="list-style-type: none"> <li>- Lou Pak Sang, Director of the DSEJ</li> <li>- Wang Fan, Teacher of Pui Va Middle School</li> <li>- Chong Chon Fai, Teacher of Pui Ching Middle School</li> <li>- U Chin Pek, Teacher of Keang Peng School (Primary Section)</li> <li>- Ao Un Fai, Teacher of Tong Nan School (Secondary Section)</li> <li>- Lei Iok Meng, Teacher of Santa Rosa de Lima English Secondary School</li> <li>- Lei Soi Leng, Teacher of Santa Rosa de Lima English Secondary School</li> </ul>	45