

**Minutes of the First Meeting of  
the CDC Committee on Science Education (1999-2000)**

**Date:** 29 October 1999 (Friday)  
**Time:** 2:30 p.m.  
**Venue:** Room 1419B, Education Department Headquarters

**Present:**

Mr. TSE Pak-hoi (Chairman)  
 Mr. CHAN Chi-tuen  
 Mr. CHAN Man-tak  
 Mr. CHENG Chi-leung  
 Mr. CHONG Shiu-Kit  
 Dr. CHOW King-lau  
 Mr. CHUI Hing-wa  
 Dr. FUNG SHI Yuk-hang  
 Mr. HO Chung-nin  
 Dr. LEE Hau-chi  
 Ms. LEE Pui-har  
 Mr. LEUNG Shiu-keung (Vice-chairman)  
 Dr. NG Kwok Hung  
 Mr. OR Choi-kuen  
 Mr. PANG Chi-chuen  
 Dr. PANG Wing-chung  
 Mrs. TANG TSUI Sau-mei  
 Dr. TAO Ping-kee  
 Mr. YIP Chee-kuen  
 Ms. LUI Mong-yu, Grace (Secretary)

**Absent with Apologies:**

Ms. LEE Kwan-ping, Carole

**In Attendance:**

Mr. CHAN Pui-tin  
 Mr. LI Wai-kwok  
 Mr. MAK Tsz-pun  
 Mr. TANG Chee-poon  
 Mr. WONG Kin-on  
 Ms. YAU Suk-yin, Grace  
 Mr. YEUNG Man-shing

**Documents sent and tabled:**

SC/1/99 Operational Manual of the Curriculum Development Council  
 SC/2/99 Membership List of the CDC Committee on Science Education  
 SC/3/99 Co-opted Members of the CDC Committee on Science Education  
 SC/4A/99 Holistic Review of the School Curriculum - Draft Report of Science Education  
 SC/4B/99 A Holistic Review of the Hong Kong School Curriculum - Proposed Reform  
 (Consultative Document)  
 SC/4C/99 香港學校課程整體檢視 - 改革建議  
 SC/5/99 Status of Syllabus Development within the Science Education KLA  
 SC/6/99 Science - Extracted from the Review of the National Curriculum of England -  
 Qualifications and Curriculum Authority, 1999/11/18  
 SC/7/99 Science: Learning Area Statement - Extracted from Curriculum Framework  
 published by the Curriculum council of Western Australia  
 SC/8/99 Alternative Ways of Providing Science Courses for Senior Secondary Students -  
 from Experiences in the Other Countries to our Local Context  
 SC/9/99 Work Schedule for the CDC Committee on Science Education (1999-2000)

## **1. Election of Chairman for the year 1999/2000**

- 1.1 The Vice-Chairman took the chair and welcomed all to the meeting.
- 1.2 The Vice-Chairman briefed members on the terms of reference of the Committee. He reminded members the need for report of potential conflict of interests by members for any matters to be handled in any meetings of the Committee.
- 1.3 The Vice-chairman invited nominations for Chairman of the Committee. Mr. P.H. TSE was nominated and elected Chairman of the CDC Committee on Science Education 1999/2000 *ipso facto*. Mr. TSE took the chair and thanked members for their support.

## **2. Appointment of co-opted member(s)**

- 2.1 Members were invited to consider the appointment of 2 teachers (Mr. KO Cheung-chuen and Dr. MAK Chi-keung) as co-opted members (SC/3/99). The nominees had long-term devotion to science education and they had extensive experiences in the development of science curriculum.
- 2.2 Members had some discussion on the matter and they showed keen concern about the under-representation of primary teacher in the Committee. Members opined that the representation of primary teacher in the Committee should be increased in the future. After some discussion, members agreed to the appointment of the two nominated teachers as co-opted members.

(Post-meeting note: In view of members' concern, the Chairman decided to appoint the two co-opted members for one-year, i.e. from 1 September 1999 to 31 August 2000.)

## **3. Discussion on the draft report on science education in the holistic review of school curriculum**

- 3.1 The Vice-chairman introduced the latest development on the holistic review of school curriculum. Members brought up the following issues for discussion:
  - science education in primary schools;
  - relationship between KLAs and subjects;
  - review of academic structure and its implication to curriculum development;
  - assessment and its implications to curriculum development;
  - implementation of the new curriculum framework.
- 3.2 Regarding science education in primary schools, Members had doubts about the desirability of integrating science elements into the General Studies (GS) Syllabus. In general, members were of the opinion that there was no need for specialization at the primary level and it was good to have the science elements taught together with other learning areas.
- 3.3 As GS has been implemented for three years, some members suggested that a research could be carried out to investigate effectiveness of the implementation. The Vice-chairman informed members that the Curriculum Development Institute (CDI) is

looking into the possibility of repeating the Third International Mathematics and Science Study (TIMSS) Population 1 (i.e. primary 3 and 4 students) test in local primary schools. Hopefully, the results of the test could shed some light on the present situation of science education in primary schools.

- 3.4 Members also raised the problem of teaching methodology employed by some of the GS teachers. In particular, some members had serious doubt whether training for non-science background GS teachers were adequate for them to organize science activities properly in classrooms. During the discussion, some members quoted examples to show that they were not satisfied with the teaching and learning of science in GS lessons. Some members pointed out that most students were not introduced to scientific processes or experiences. They observed that the teaching approach adopted by many GS teachers resembled language teaching. Members suggested that training for GS teachers in the areas of scientific processes and the nature of science was in urgent need.
- 3.5 Regarding the relationship between KLAs and subjects, The Vice-chairman drew members' attention to the roles and functions of the KLA Committees as stated in the Operational Manual of the Curriculum Development Council (SC/1/99). He further remarked that KLA Committees were set up to formulate directions of curriculum development of the specific key learning areas and to map out plans and strategies for the development of related subject curricula. In particular, this Committee would steer the direction of science education in schools and look after curricula of science subjects at all levels of schooling.
- 3.6 Regarding the Education Commission's (EC) review of academic structure and its implication to curriculum development, some members commented that the on-going debate and consultation of the review would leave many uncertainties for our work. The Vice-chairman reiterated that during the holistic review of school curriculum, CDI had already formulated preliminary recommendations for school science education. The Committee could critically examine whether the recommendations were in line with the aims of education proposed in the review. Details of the science curricula for senior secondary depended very much on the result of the review and these had to be handled at a later stage.
- 3.7 Regarding assessment and its implications for curriculum development, members worried about the assessment of students if the emphasis of our curriculum was shifted to the development of scientific process skills. Concern about teachers' confidence and competence in the assessment of skills (such as through project assignments) were raised. In order to strengthen support for teachers, a member proposed to develop a pool of questions for testing the skill component of the curriculum on the Internet. Students would be allowed to attempt the tests at their own pace. Members also expressed their views on possible changes to the public examination system and university admission requirements.
- 3.8 Regarding implementation of the new curriculum framework, the Chairman opined that different approaches could be adopted in designing the curriculum: skill approach, knowledge transfer approach or project approach. He added that the EC review had allowed time and room for try-out and consolidation of different approaches. A member

pointed out that the schedule for implementation of the new curriculum framework was very tight. Another member concurred with the notion of life-wide learning, but felt that schools might not be able to provide all the learning experiences. He also pointed out that clarification on the roles of schools, parents and community should be made.

- 3.9 The Chairman reminded members that discussions on these issues could be continued in the coming meetings and members agreed.

**4. To discuss on the consultative strategies and work schedule for the science education key learning area**

- 4.1 Mr. P.T. CHAN, Mr. K.O. WONG and Ms. Grace LUI (Senior Curriculum Development Officers of the Science Section of CDI) briefed members on the status of development of various science syllabuses under the purview of this Committee (SC/5/99). On the provision of a diversity of options of science courses for the students, Ms. Grace YAU (Seconded Teacher of the Science Section of CDI) presented a summary of study on relevant experiences of some foreign countries/regions (SC/8/99). Possible schemes for Hong Kong were also explained in details. The Chairman invited members to offer their views on the issue in the coming meetings.
- 4.2 On the Committee's work schedule, members concerned about the breadth of concerns and some proposed that the discussion should be more focused. The Chairman said that the Committee had to set a priority for the issues.
- 4.3 A member pointed out that with the restructuring of CDC, the work of revision of syllabuses undertaken by the former Subject Committees had been suspended. It was opined that ad hoc committees should be set up as soon as possible to continue the work of syllabus revision. The Vice-chairman explained that the setting up of ad hoc committees had to be endorsed by this Committee and proposals would be submitted for consideration in the next meeting.
- 4.4 A member enquired about the details and plans of the second stage of the holistic review. Member also commented that there should be plans of different scales and progressions to address the needs and concerns of schools. The plans should also be developed in line with EC's review on academic structure. The Vice-chairman responded that the Secretariat would prepare position statements on various aspects of school science education for the Committee's consideration. Later, based on the position statements, the Committee could consolidate the viewpoints in the form of a report on the science education KLA under the holistic review. The report would serve as a curriculum framework for the Science KLA. Reference materials in SC/6/99 and SC/7/99 are similar documents developed in England and Western Australia.
- 4.5 Finally, the Chairman opined that members would need some time to study on the documents. He invited members to propose agenda items for future meetings and make comments to the Secretary. He also urged members to handle prudently any sensitive issues and information discussed in this Committee.

**5. Any other business**

- 5.1 The next meeting was scheduled to be held at 2:30 p.m. on 14 December 1999 (Tuesday).
- 5.2 There being no other business, the meeting was ended at 5:45 p.m.

Confirmed on \_\_\_\_\_.

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(Mr. TSE Pak-hoi)  
Chairman

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(Ms Grace LUI)  
Secretary