

Part B Project Summary

Project Title: A computerized interactive training system for helping students with disabilities to acquire the skills in activities of daily living	Project Number 2011/0162
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Name of Organization: School of Nursing, The Hong Kong Polytechnic University

(1) Goals:

To develop a computerized training system to help students with upper-extremity disability to acquire essential daily living skills.

Objectives:

- (i) To design an innovative computer-assisted training method that is safe, economical, effective and versatile for disabled students to acquire different daily living skills.
- (ii) To develop a prototype system based on the method for the training of specific activities of daily living (ADLs), including food cutting, liquid pouring, and door opening.
- (iii) To evaluate the usefulness and usability of the prototype.
- (iv) To equip the occupational therapists and special teachers with the skills to implement the proposed method, thereby by enabling them to promote the method to other schools in Hong Kong.

(2) Targets:

Expected number of beneficiaries: 130 students, 9 occupational therapists (OTs) and 50 teachers of the collaborating school; as well as 415 students, 23 OTs and 144 teachers from all other special schools in Hong Kong.

(3) Implementation Plan:

- (i) Duration: 18 months (10/2012 to 03/2014)
- (ii) Process / Schedule:

Phase 1-4	Date	Phase 5-8	Date
1. Design/Specification	10/12–12/12	5. Implementation	06/13–11/13
2. Development	11/12–05/13	6. Data analysis	08/13–11/13
3. Preparation for implementation	03/13–05/13	7. Documentation	11/13–01/14
4. Staff training	04/13–05/13	8. Publicity/Promotion	12/13–03/14

- (iii) Collaboration with other parties/partners: Hong Kong Red Cross Princess Alexandra School.

(4) Products:

- (i) Deliverables/outcomes:
 1. A computer-assisted training system for ADLs, together with a database for managing students' performance will be developed.
 2. User manual, pamphlets, demonstration DVD, and a project website will be delivered.
 3. A manuscript based on the project will be submitted to an international journal; as well as submissions of articles to international conferences and local press.
- (ii) Dissemination of deliverables / outcomes:
 1. The outcomes and results will be disseminated in local media and international conferences. A manuscript will also be submitted to an international journal.
 2. A website will be set up to publicize the project.
 3. Workshops/seminars will be arranged for special schools in Hong Kong to advocate the proposed method. Pamphlets/DVD will be distributed to the schools.
 4. Participation in exhibitions will be arranged to publicize the project in the community.
- (iii) Commercialization potential of deliverables / outcomes:
The computerized training system and the software developed, and the accessories (handles) designed, have good potential for commercialization as products of this kind are limited in the market.

(5) Budget:

Item	Staff Cost	General Expenses	Total
Amount (HK\$)	267,750	31,050	298,800

(6) Evaluation:

- (i) Performance indicators: task completion time, trajectory, path length, deviation, number of errors/mistakes, contact forces.
- (ii) Outcome measurements: evaluation by OTs and special teachers, feedback forms, focus-group interviews, computer system usability questionnaire; questionnaire for user interaction satisfaction.