# Integrated Daily Living Skill Program – An Integrated Program in Teaching Daily Living Skill for Physically Disabled Students with Severely Mentally Handicap

**Wai Yee Cheung and Kam Man Wong**
**Caritas Jockey Club Lok Yan School**
**Hong Kong**

**Abstract**

Independence of daily living tasks, including grooming, dressing, toileting, seat transferring and bathing, are highly associated with self-esteem, self-efficacy and social approval. However, children with physical disabilities and severe mental handicap are restricted by their disabilities in performing daily living skills. Training on using adaptive aids can facilitate growth and provide students with opportunities to restore and maintain skills necessary for independent living. The effectiveness of intensive daily skill training in our students is presented. Through the prescription of adaptive aids and instruction given on manual lifting, caregivers are able to train their children at home, especially in assisting bathing of children.

The theme of this program is to facilitate growth and provide the students with opportunities to restore and maintain skills necessary for independent living. By using adaptive aids and learned techniques, students can acquire daily living skills.

Many references indicate that basic activities of daily living skills are necessary to maintain health. Literatures has shown that self-maintenance activities consume about 10% to 15% of the average able-bodied persons' working day (Szalai, 1972), with a slightly higher proportion of time required for those with disabilities (Lawton, 1990). Students with multiple handicapped have difficulties in functional mobility and require physical assistance on daily living tasks. Home-care of severely disabled students is strongly recommended today. However, the care of disabled students at home is a large sector of household work for their caretakers. Therefore, self-care training with environmental adaptation is essential in order to increase their daily living independence. Special services are needed to support and facilitate the home-care of disabled students (Robinson 1987) and parents need to obtain this kind of knowledge (Ayer 1984, Robinson 1987). An "Integrated Daily Living Skill Program (IDP)" was started from 2001 in Caritas Jockey Club Lok Yan School. The purpose of this study was to investigate whether our students could improve their daily living independence through integrated Daily Living Skills training, with transition of skills and adaptive devices.

## Method

7 Students with severely mentally handicap and other physical disabilities, means age 11 years 8 months (Table 1), were selected to attend intensive daily living skill

training from September 2001 to June 2002. Self-developed recording sheets, with reference to the Functional Independence Measure (FIM) checklist (Appendix IA) that included measurement of independence on grooming, dressing, toileting, transfer and bathing tasks was used. Another training recording sheet (Appendix IB) which was designed to record target students' performance on break down tasks. It helped therapist to notice the slightest changes on their progress. Questionnaires (Appendix II & III) were completed by parent / caretakers during home visits. Evaluation on the effectiveness of the program was used by checklists, observation and questionnaires for parents.

A survey design was applied to study the burden on taking care SMH children at home. This survey was conducted in three stages and multi-method was utilized to collect data.

In stage 1, a checklist (Appendix IV) was sent to each class teacher to collect the information about the frequency of the children home leave, their living environment, bathroom environment etc., in order to determine which families might have problems in caring their children's self-care activities at home. Hence, class teacher acted as a key informant to provide information about difficulties of caretakers came across at home. Information was used to screen out the most suitable target students / families.

In stage 2, 28 families were identified to conduct home visits. Participants were interviewed and provided with a questionnaire (Appendix II) during home visit by Occupational therapist. During home visits, therapists measured the dimension of the bathroom and the width of corridor. Photos were also taken for record. Then the kind of adaptation or modification would need for the home environments of students were decided. The questionnaire (Appendix II) aimed to gather information about the home leave frequencies, the consuming time of taking care of their children on self-care activities and the burden of taking care of their children on self-care activities. Visual Analog Scale (VAS) is used to measure caretakers' burden in this study. VAS is widely used in measuring pain in rehabilitation and medical field, and Loeser claimed that it was a simple and efficient method to measure pain. It consisted of a 10 cm line anchored at one end by a label state as "no burden" and the other end by a statement "unimaginable burden". The mark that caretakers marked on the Scale indicates their burden's intensity.

In stage 3, a follow up home-visit to students who were prescribed adaptive aids or home modification was conducted. Caretakers then filled a new questionnaire (Appendix II) on the same format again for comparison. Moreover, questionnaires about the satisfaction of caretakers' on the prescribed adaptive aids (Appendix III) were distributed to participants in order to gather information about the aids.

**Results**

Compared with the pre-test and post-test data (Table 2 to 8), most of the students (including ***CHW, HCS, LKW, HKK*** and ***CHC***) who attended the intensive Activities on Daily Living (ADL) training had improvement on all the daily living skills training tasks, except for the following students:

- Students ***HFS*** suffered from pneumonia on January 2002. His

performance remains unchanged on dressing upper garment and decline in performing grooming tasks. It might cause by the effect from the pneumonia. His recovery period lasted for three months.

- Student ***CW*** was diagnosed as athetoid. Although he has better mentality level when compared with other students, he has difficulty to control his upper body to perform the ADL tasks.

The results show that the independence on performing ADL tasks on SMH students can be improved by intensive ADL training. They needed supervision and certain physical and/or verbal prompting/ assistance while performing those tasks

Home-care of disabled children increased the burden of caretakers significantly. Parents also claimed that bathing their children was the most time consuming and difficult task they came across. According to findings form interview and questionnaires, caretakers claimed bathing was the most difficult task for them to handle their children at home. It rated 6.1 over 10 on burden intensity. Drinking rated 2.6, toileting was 3.3, eating was 2.6 and grooming was 1.5 on burden intensity. (Table 9)

Caretakers would consume 20 minutes on average to bath their children at home. Grooming consumed 15 minutes, eating and toileting needed 15 minutes and drinking was 5 minutes (Table 10). It showed that bathing is the most time consuming task for caretakers to help their children.

After a first round of home visits, 8 families that claimed with difficulty on bathing their children at home to conduct follow-up service were selected. Their burden intensity on bathing was 6.5 which was slightly higher than average. While after prescribing bathchair to caretakers, a significant decrease of burden intensity on bathing was observed. The rating sharply decreased to 1.4 over 10 (Table 11).

Focusing on bathing, it was found that there was a directly proportional trend between burdens on bathing children and home leave frequency (Table 12). Children had higher rate of home leave; their caretakers would find it more difficult to take care of them.

The questionnaire which evaluated the satisfaction of caretakers' on the prescribed adaptive aids (Appendix III) was designed for them to comment on the prescribed aids that included dimension, weight, convenience on adjustment, safety, durability, convenience on operation, comfortableness and effectiveness aspects. All caretakers were satisfied with the prescribing aids and all of them rated full mark (5 points) on safety, durability and convenience on operation. In other aspects, they also rated above 4 out of 5 points (Table 13).

**Discussion**

Through learnt skill or the use of adaptive aids, students showed a good progress on ADL training. They were able to perform the ADL task with less assistance. It confirmed that ADL training is important for severely mentally handicap students with physically disabled.

| NAME | DIAGNOSIS OF STUDENTS | | | | | | |
|---|---|---|---|---|---|---|---|
| CHW | M-SMH | CP (spastic tetraplegia) | Epilepsy | | | | |
| HFS | SMH | CP (spastic tetraplegia) | Epilepsy | Cardiac Rhabdomyoma | Tuberous scoliosis | Infantile spasm | |
| CW | M-SMH | CP (athetoid) | | | | | |
| HCS | SMH | CP (hypotonia) | Epilepsy | | | | Delay motor development |
| LKW | M-SMH | CP (hypotonia) | Epilepsy | | | | |
| HKK | SMH | | | Down's Syndrome | | | |
| CHC | SMH | | | multiple congential abnormalities | pulmonary stenosis | G6PD Deficiency | |

**Table 1: The diagnosis of students who attended the intensive Daily Living Skills Training**

Table 2: Student CHW's Functional Independence Score

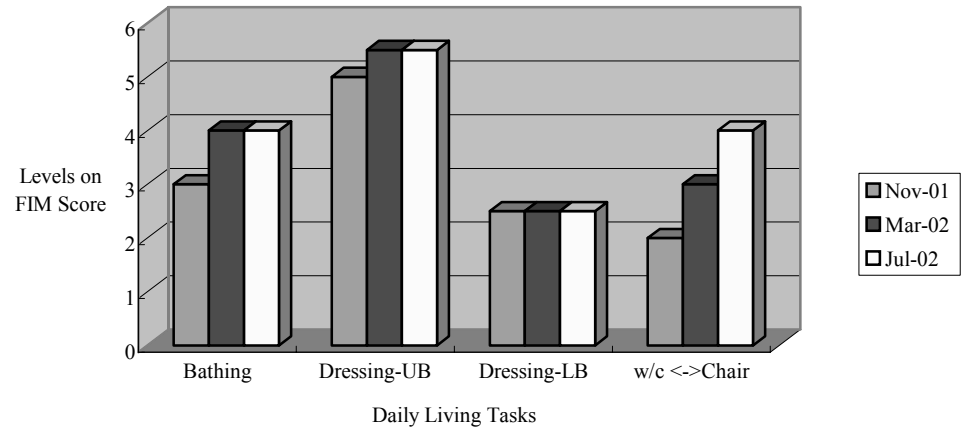



Table 3: HFS's Functional Independence Score

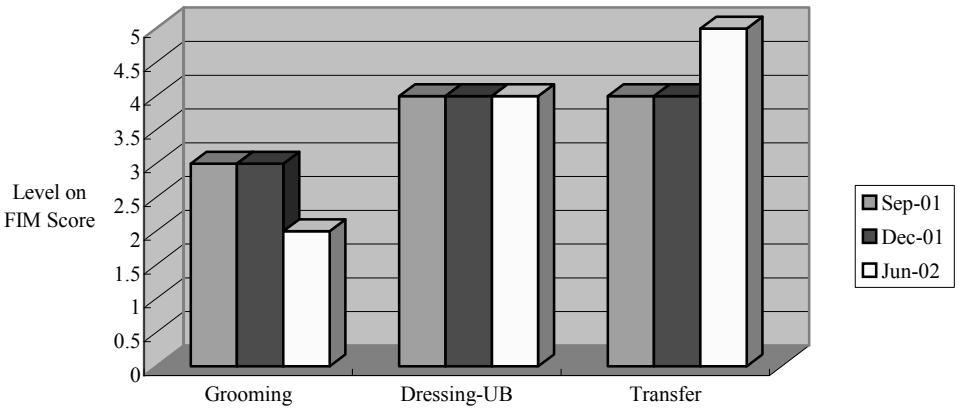



Table 4: CW's Functional Independence Score

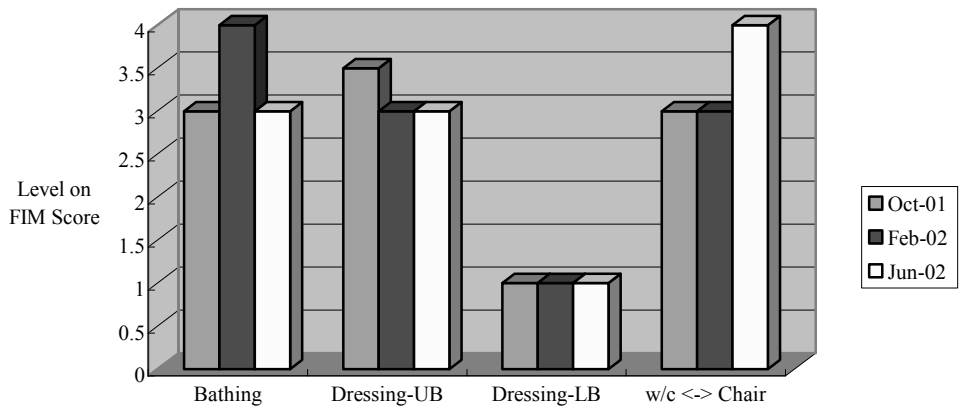


Table 5: HCS's Functional Independence Score

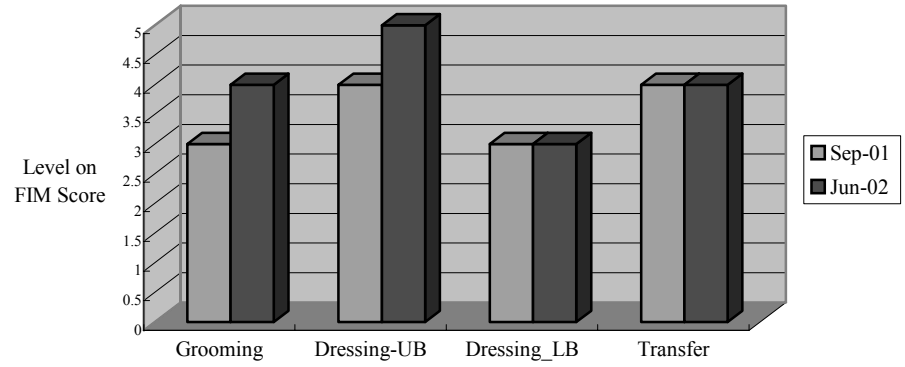



Table 6: LKW's Functional Independence Score

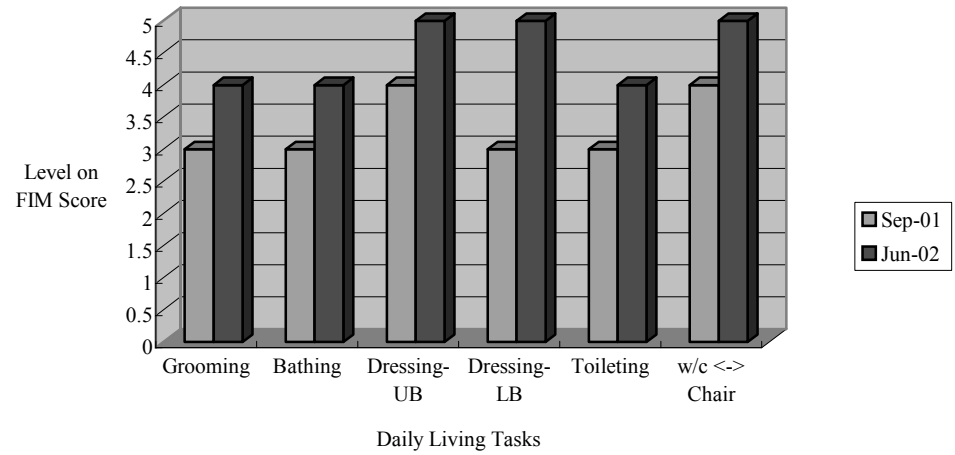



Table 7: HKK's Functional Indendence Score

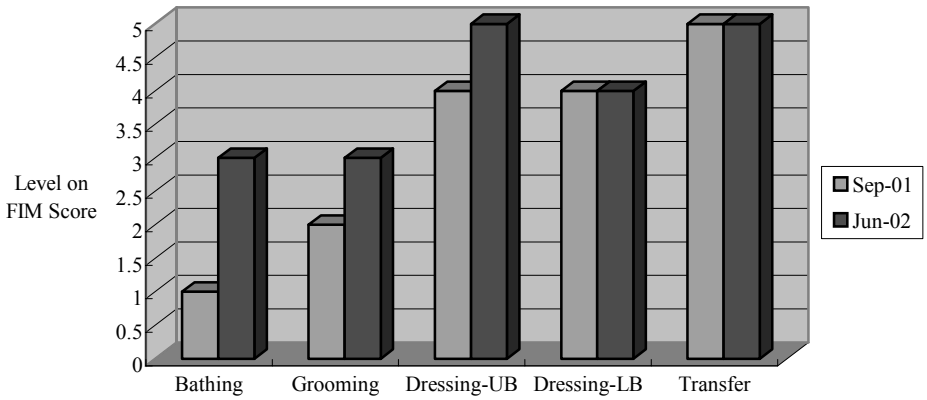
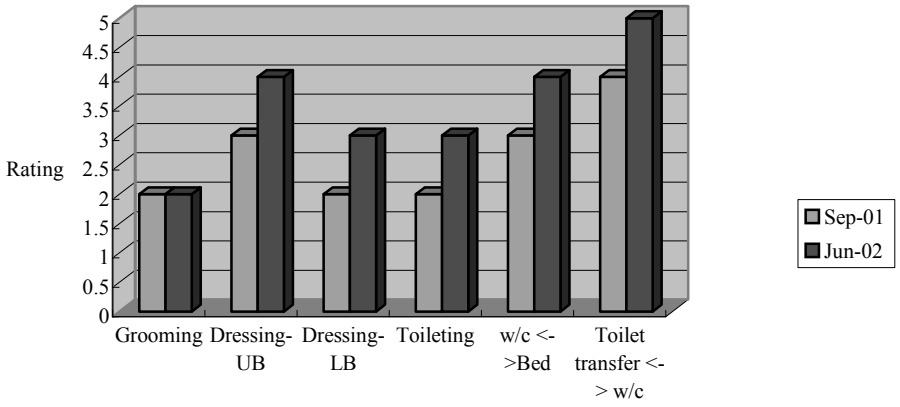


Table 8: CHC's Functional Independence Score



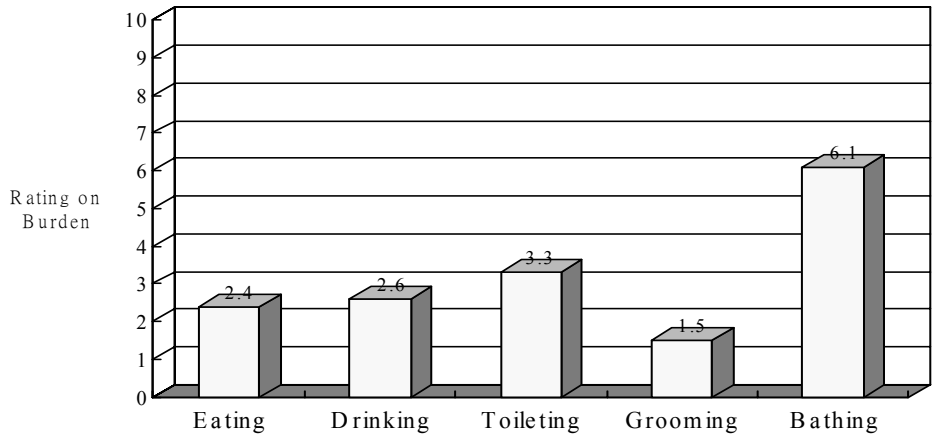




Table 9: The burden on taking care SMH children

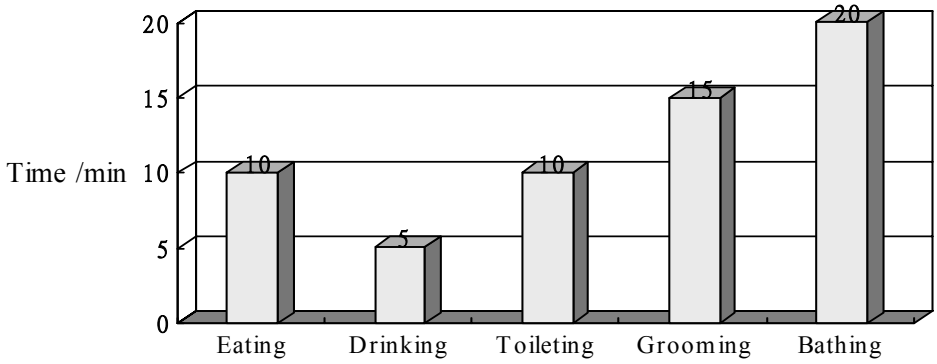



Table 10: The time consume for parents in taking care SMH children on self-care activities.

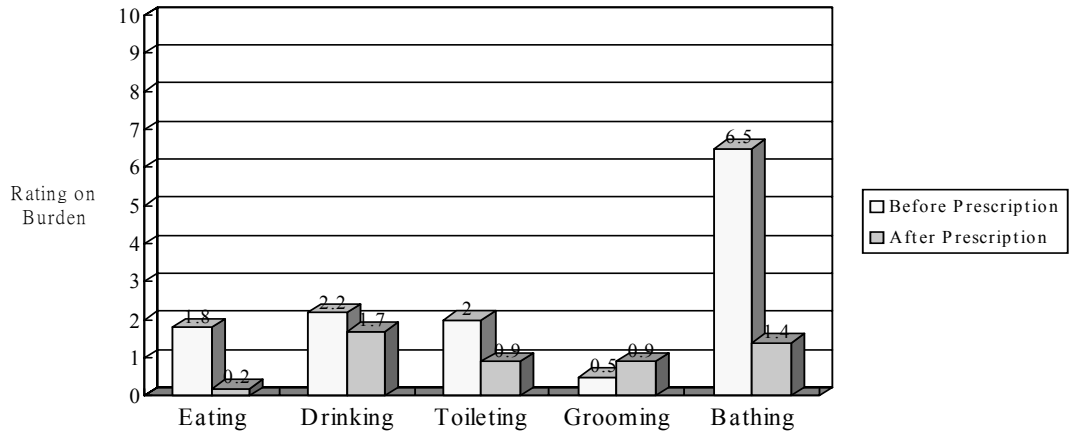



Table 11: The burden on taking care SMH children before and after prescription of bathchair

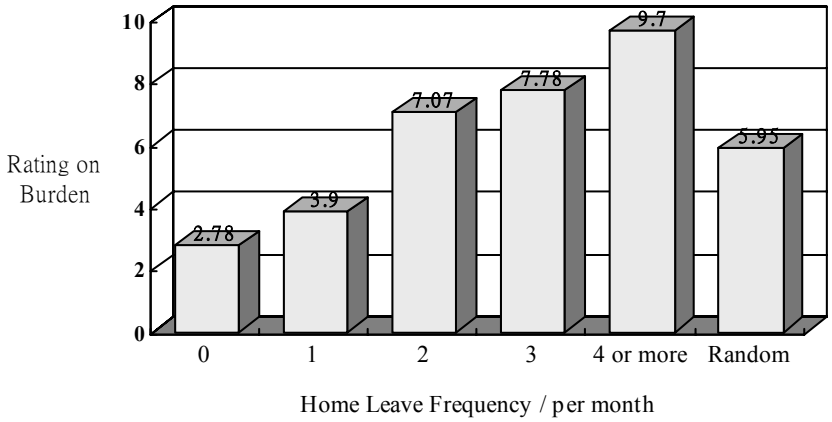



Table 12: The relationship between parents' burden on taking care their children on bathing at home and home leave frequency

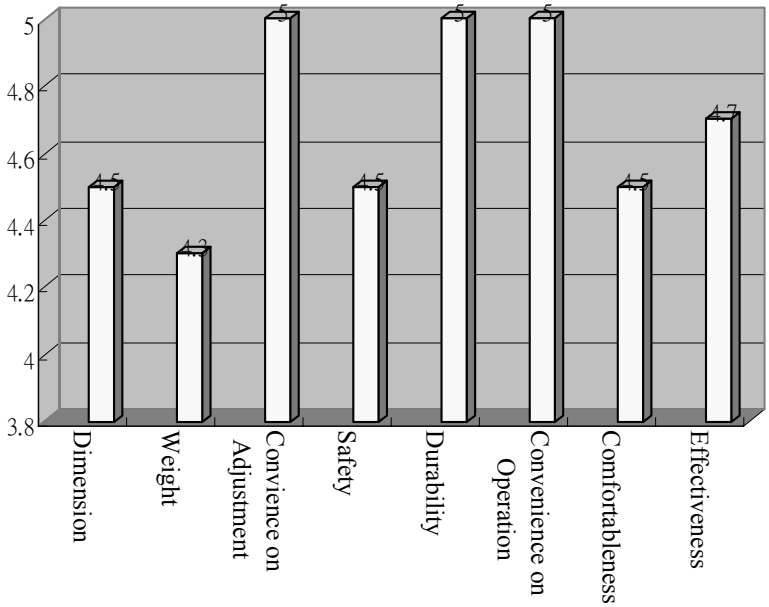



Table 13: Caretakers' Comment on Prescribing Aids

Self-care training has been commonly practiced in severely mentally handicap students. It can improve self-image, self-esteem and maintain health of students. In 2001, seven students in our school were selected to participate on an intensive ADL training. After the program, most of students showed a good progress on ADL training. It indicated that severely mentally handicap with physically disabled students were also capable of ADL training. As a result, it can serve as a blueprint for other self-care trainings in the future to maximize our student potential. Finally, they can become more independent in their daily living.

Nowadays, the home-care service of severely mentally handicap with physically disabled students is strongly recommended. According to our findings, similar to Dupont findings, home-care of disabled children will increase the burden of caretakers significantly. In addition, we also recognized the problem of caretakers on handling self-care activities of children at home especially on bathing. From the result, caretakers claimed that bathing their children was the most time consuming and difficult task they came across. Moreover, students with more home leave will lead to more burden on caretakers. Furthermore, comparing with the burden intensity before and after prescribed bathchair, a significant decrease in burden intensity was observed. It confirmed that the bathchair could release the burden of caretakers on taking care their children on bathing.

It also indicated that there was a great demand of home-care service. Life at home rather than in an institution may enhance the psychological development of students and is usually preferred by the family. Therefore, our team members will continue to support the home-care service such as prescription of aids and advise on professional techniques.

## References

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Appendix 1A

## Functional Independence Measure (FIM)

**Student Name:**_____

| | | |
|---|---|---|
| LEVELS | 7 Complete Independence (Timely, Safely)<br>6 Modified Independence (Device) | No Helper |
| | Modified Dependence<br>5 Supervision<br>4 Minimal Assist (Subject = 75%+)<br>3 Moderate Assist (Subject = 50%+)<br>Complete Dependence<br>2 Maximal Assist (Subject = 25%+)<br>1 Total Assist (Subject = 0%+) | Helper |

| | Date | | | | |
|---|---|---|---|---|---|
| **Self Care** | | | | | |
| A. Eating | | | | | |
| B. Grooming | | | | | |
| C. Bathing | | | | | |
| D. Dressing-Upper Body | | | | | |
| E. Dressing-Lower Body | | | | | |
| F. Toileting | | | | | |
| **Sphincter Control** | | | | | |
| G. Bladder Management | | | | | |
| H. Bowel Management | | | | | |
| **Mobility** *(Transfer)* | | | | | |
| I. Bed, Chair, Wheelchair | | | | | |
| J. Toilet | | | | | |
| K. Tub, Shower | | | | | |
| **Locomotion** | | | | | |
| L. Walk/ wheelchair W/ C | | | | | |
| M. Stairs | | | | | |
| **Communication** | | | | | |
| N. Comprehension A/ V | | | | | |
| O. Expression A/ V | | | | | |
| **Social Cognition** | | | | | |
| P. Social Interaction | | | | | |
| Q. Problem Solving | | | | | |
| R. Memory | | | | | |
| **Total FIM** | | | | | |

Appendix 1B

# 生活技能評估表

學生姓名：何 XX　　班別：P5B　　性別/ 年齡：F/ X

年份：2002　　治療員姓名：XXX

| 治療項目 | | 日 期 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 一 刷牙（不使用牙膏） | 1. 站在洗臉盆前提取牙刷及漱口盅 | | | | | | | | | | | | |
| | 2. 右手開水喉，左手把插有牙刷的漱口盅放於水喉下裝水 | | | | | | | | | | | | |
| | 3. 右手關水喉，左手放下漱口盅 | | | | | | | | | | | | |
| | 4. 左手拿起牙刷放刷頭入口 | | | | | | | | | | | | |
| | 5. 張唇合齒，左右移動牙刷，刷牙齒兩邊外側 | | | | | | | | | | | | |
| | 6. 張開口腔，左右移動牙刷，刷內側的牙齒 | | | | | | | | | | | | |
| | 7. 放下牙刷，拿起口盅，含一口水 | | | | | | | | | | | | |
| | 8. 俯向洗臉盆，把水吐出 | | | | | | | | | | | | |
| | 9. 重覆 7- 8 直至沖淨口腔 | | | | | | | | | | | | |
| | 10. 清洗用完之器具 | | | | | | | | | | | | |
| 二 梳洗訓練 | A. 1. 運用雙手扭乾毛巾 | | | | | | | | | | | | |
| | 2. 雙手提起毛巾貼着臉龐抹擦 | | | | | | | | | | | | |
| | 3. 用右手抹擦左手 | | | | | | | | | | | | |
| | 4. 用左手抹擦右手 | | | | | | | | | | | | |
| | 5. 把毛巾放回原處 | | | | | | | | | | | | |
| | B. 運用雙手交替用梳子梳頭 | | | | | | | | | | | | |
| 三 穿鞋子（有魔術貼扣） | 1. 安坐，提起右腳 | | | | | | | | | | | | |
| | 2. 彎腰用右手執著鞋子鞋舌將腳穿入鞋內 | | | | | | | | | | | | |
| | 3. 雙手執著鞋子兩側向後拉 | | | | | | | | | | | | |
| | 4. 把魔術貼扣扣好 | | | | | | | | | | | | |
| | 5. 左邊重覆 1-4 | | | | | | | | | | | | |
| 六 穿襪子 | 1. 安坐，雙手執襪頭，使襪跟向著自己 | | | | | | | | | | | | |
| | 2. 雙手握襪筒兩側分開 | | | | | | | | | | | | |
| | 3. 彎腰把襪筒套入右腳內，直至襪跟套正腳踝 | | | | | | | | | | | | |
| | 4. 左腳重覆 1-3 | | | | | | | | | | | | |

**評分**

| **沒有協助下** |
|---|
| 7 完全獨立完成 (按時，安全地) |
| 6 獨立完成 (需工具/ 輔助儀器) |
| **協助下** |
| 5 監察下 |
| 4 最少協助 (75%+) |
| 3 中度協助 (50%+) |
| 2 最多協助 (25%+) |
| 1 完全協助 (0%+) |

Appendix II

# 明愛賽馬會樂仁學校

## 職業治療部家居探訪紀錄

學生: _____ 班級: _____ 日期: _____

被訪者: _____ 與學生關係: _____

學生每月回家次數：一次□ 二次□ 三次□ 經常沒有□ 其他_____

若經常沒有，原因 _____

家居環境： a）類別： 私人樓宇□ 公屋□ 居屋□ 其他_____

b)已有設施 _____ c） 同住人士 _____

d）備註 _____

| 學生自理表現 | | 所需時間 |
|---|---|---|
| a.進食 | | |
| b.進飲 | | |
| c.如廁 | | |
| d.梳洗 | | |
| e.洗澡 | | |

| | 家長於照顧學生在自理上所感受到的困難程度： |
|---|---|
| 進食 | 無困難 1 _____ 10 不能忍受的困難 |
| 進飲 | 無困難 1 _____ 10 不能忍受的困難 |
| 如廁 | 無困難 1 _____ 10 不能忍受的困難 |
| 梳洗 | 無困難 1 _____ 10 不能忍受的困難 |
| 洗澡 | 無困難 1 _____ 10 不能忍受的困難 |

| | 學生在自理項目上所參與的程度: |
|---|---|
| 進食 | 全無參與 1 _____ 10 全部參與 |
| 進飲 | 全無參與 1 _____ 10 全部參與 |
| 如廁 | 全無參與 1 _____ 10 全部參與 |
| 梳洗 | 全無參與 1 _____ 10 全部參與 |
| 洗澡 | 全無參與 1 _____ 10 全部參與 |

家長對學生在家中自理項目上的期望及建議：

家長對輔助儀器之需求：

治療師建議：

治療師姓名：　　填表日期:

同行探訪者:

Appendix III

# 明愛賽馬會樂仁學校

## 職業治療部

## 輔助器材滿意度評估表

輔助器材：_____
使用者：_____
評估日期：_____
填表者：_____

請在下列八個項目裡填寫你的滿意程度。若你在該項目的評分是 2 或 1，請填寫原因。

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 十分不滿意 | 頗不滿意 | 普通 | 頗滿意 | 十分滿意 |

| **你對該輔助器材的滿意度：** | **分數** | **原因** |
|---|---|---|
| 1. 你使用的輔助器材的**尺碼**（大小、高度、長度、闊度）？ | 1 2 3 4 5 | |
| 2. 你使用該輔助器材的**重量**？ | 1 2 3 4 5 | |
| 3. **調較**該輔助器材配件的**容易程度**？ | 1 2 3 4 5 | |
| 4. 該輔助器材的**安全及可靠度**？ | 1 2 3 4 5 | |
| 5. 該輔助器材的**耐用度**（耐久、不易損耗）？ | 1 2 3 4 5 | |
| 6. **使用**該輔助器材的**方便程度**？ | 1 2 3 4 5 | |
| 7. 使用該輔助器材的**舒適度**？ | 1 2 3 4 5 | |
| 8. 該輔助器材的**效用**（能滿足學生的需要）？ | 1 2 3 4 5 | |

以下八個項目裡，請選擇兩項你認爲是對你最重要的。
請在你選擇的項目上打上 X：

| | |
|---|---|
| ☐ 1. 尺碼 | ☐ 5. 耐用度 |
| ☐ 2. 重量 | ☐ 6. 方便使用度 |
| ☐ 3. 調較容易度 | ☐ 7. 舒適度 |
| ☐ 4. 安全可靠度 | ☐ 8. 效用 |

多謝你完成此問卷調查！

Appendix IV

# 明愛賽馬會樂仁學校
## 家庭探訪記錄

學生：_____ 級任：_____

1. 學生每月回家次數：一次□ 二次□ 三次□ 經常沒有□ 其他_____
2. 家居環境： a) 類別： 私人樓宇□ 公屋□ 其他
   _____
   b) 洗手間內活動範圍/ 特別設施：
_____
家長有否提出學生在自理方面的困難/ 需提供援助 (如學生需要沖涼椅)：
_____
_____