

Improving Laundry Skills of Children with Developmental Disabilities through Apprenticeships at *Laundry Cling*

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Abstract: This paper reports the results of study on six intellectually disable children's laundry skills during an apprenticeship at a laundry shop in Majalengka, Jawa Barat, Indonesia. These six children's IQ ranges from 52 to 58, and they have gross motor skills such as loading and unloading washing machines, lifting, moving, and hanging washed clothes. They have fine motor skills such as coupling the washing machine water inlet hose with a faucet, turning the faucet on/off, setting up the washer's timer. This study employed a quantitative experimental design. The study began with a pretest. The pretest consisted of 65 test items about children's laundry skills. The pretest average score was 157.4 with a percentage of 67.72%. After a one-month apprenticeship, the posttest was administered. The result revealed that the children obtained an average score of 214.4 with a percentage of 91.61%. It can be concluded that the apprenticeship improved the laundry skills of children with mild developmental disabilities.

1 INTRODUCTION

Children with developmental disabilities are those with significant intellectual disabilities and low adaptive behavior skills. Their intellectual disabilities affect their academic development. Their academic skills are clearly below the average. Their education should focus on their self-reliance and life skills not on their academic development. The reality is not the case. Their education is too focused on their academic development. Findings at SMALB SLB C YPLB Majalengka revealed that the school instructions were not focused on life skills needed by the intellectually disable children.

Life skills provided in school have been too theoretical despite the fact that, as Wahyuni's (2011) study showed, the ratio of theory and practice should be 1:4. Theoretical instruction is carried out in the classroom, and practical instruction outside the classroom. Even better if the practical instruction is given in collaboration with their prospective employers. This is in line with Astati's (2009, p. 5) statement, "... it is necessary to design an instruction collaboratively involving teachers, government, parents, and prospective employers who can give an idea about the type of works, methods, and strategies

appropriate for children with special needs. It is necessary to design a vocational education and vocational training suitable for children with special needs."

An apprenticeship is one of practical instructions to equip intellectually disable children enrolled in SMALB (special senior high school) with life skills. According to Anwar (2012), an apprenticeship is learning process to acquire life skills with or without guidance from the more skillful persons. One of benefits of an apprenticeship system is that it enables children experience work experience while studying. This is necessary to equip intellectually disable children with life skills, both personal and social skills. An apprenticeship enables a skillful person to provide them with appropriate trainings.

It also enables the intellectually disable children to directly learn from professional instructor in the workplace. Some studies showed that "... apprenticeships and traineeships produce positive works and open career paths for disabled adults. The positive works is associated with the improvement of the participants' quality of life" (Cocks, Thoresen and Lee, 2015).

Considering the aforesaid description, the researchers were interested to conduct a study entitled

“Improving Laundry Skills of Children with Developmental Disabilities through Apprenticeships at Laundry Cling Majalengka.” This study is of a great importance so as to help children with developmental disabilities experience real work environments.

2 RESEARCH METHOD

This study used a quantitative experimental pretest-posttest design. This design is selected to ensure the accuracy of the result by comparing the condition before and after treatment. In addition, the design selection was also due to the limited number of subjects.

Using this design, the subjects took a pretest to figure out their initial condition (O1) before receiving treatment (X). After treatment, they took a posttest to see the result (O2) of the treatment. This design is illustrated as follows the Figure 1:

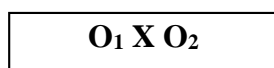


Figure 1: Research design.

The samples were six students at SMALB C YPLB Majalengka, selected using a non-probability sampling technique based on the following conditions:

- The subject should be special senior high school students with mild developmental disabilities. Amin (1995, p. 25) said that, with reference to Weschler’s (WISC) scale, students with mild developmental disabilities are those with IQ score range of 55-69 or 52-68 according to Binet’s scale.
- The subject must not have gross and fine motor difficulties. The indicators for gross motor skills in doing laundry include loading and unloading washing machines, lifting and hanging the washed clothes. The indicators for fine motor skills included collecting laundry, flipping laundry, coupling the washer’s water inlet with a faucet, turning a faucet on/off, setting the washer’s timer, and storing the detergent (See in Table 1).

Table 1: The physical evidence of children’s gross and fine motor skills in doing laundry.

No	Name	IQ	Motor Skills in Doing Laundry	
			Gross Motor	Fine Motor
1	AM	56	Loading and unloading washing machines, lifting, moving and hanging the washed clothes.	Collecting laundry, flipping laundry, coupling the washer’s water inlet with a faucet, turning a faucet on/off, setting the washer’s timer, and storing the detergent.
2	AS	58	Loading and unloading washing machines, lifting, moving and hanging the washed clothes.	Collecting laundry, flipping laundry, coupling the washer’s water inlet with a faucet, turning a faucet on/off, setting the washer’s timer, and storing the detergent.
3	AN	52	Loading and unloading washing machines, lifting, moving and hanging the washed clothes.	Collecting laundry, flipping laundry, coupling the washer’s water inlet with a faucet, turning a faucet on/off, setting the washer’s timer, and storing the detergent.
4	PI	58	Loading washing machines, lifting, moving and hanging the washed clothes.	Collecting laundry, flipping laundry, coupling the washer’s water inlet with a faucet, turning a

				faucet on/off, and storing the detergent.
5	HK	53	Loading washing machines, lifting, moving and hanging the washed clothes.	Collecting laundry, flipping laundry, coupling the washer's water inlet with a faucet, turning a faucet on/off, setting the washer's timer, and storing the detergent.
6	IM	53	Loading and unloading washing machines, lifting, moving and the washed clothes.	Collecting laundry, flipping laundry, coupling the washer's water inlet with a faucet, turning a faucet on/off, and storing the detergent.

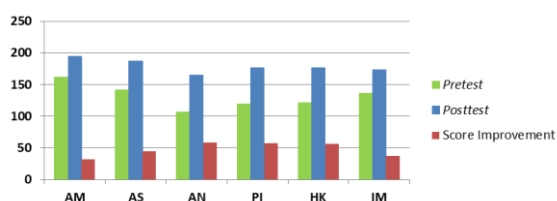


Figure 3: Laundry skill pretest and posttest scores of students with mild developmental disabilities.

Based on the Figure 3, the description of each sample's obtained scores:

- AM's pretest and posttest scores were 162 and 194 respectively; the score improved by 32 with a percentage of 19.75%.
- AS's pretest and posttest scores were 142 and 187 respectively; the score improved by 45 with a percentage of 31.69%.
- AN's pretest and posttest scores were 107 and 165 respectively; the score improved by 58 with a percentage of 54.20%.
- PI's pretest and posttest scores were 119 and 176 respectively; the score improved by 57 with a percentage of 47.90%.
- HK's pretest and posttest scores were 121 and 177 respectively; the score improved by 56 with a percentage of 46.28%.
- IM's pretest and posttest scores were 136 and 173 respectively; the score improved by 37 with a percentage of 27.20%.

3 RESULTS AND DISCUSSION

3.1 Results

Students' average result of the pretest was 67.72%. After a one-month apprenticeship, the posttest was administered. The result revealed that the students obtained an average percentage of 91.61%. Figure 2 shows that students had different laundry skills.

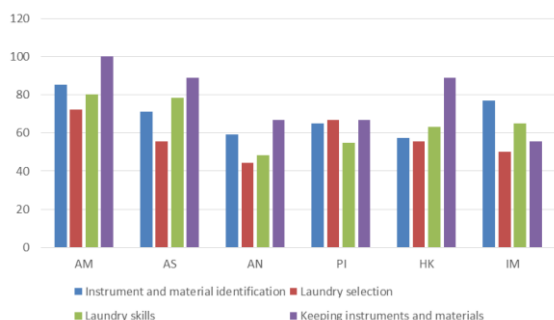


Figure 2: Students' laundry skills before apprenticeship.

The collected data were analyzed using the Wilcoxon test. This computation was carried out due to the small number of samples and the paired data. The procedure of Wilcoxon test is as follows:

- The difference between paired data ($X - Y$) was given an absolute value. The absolute values were given from the smallest to the largest or vice versa. The smallest absolute value was numbered or ranked 1, and the next difference was numbered or ranked 2 and so on.
- Every difference was given positive and negative symbols.
- The rank of the positive difference was then calculated.
- The smallest difference became the absolute value and was marked with the letter J. The smallest absolute value or J became the basis of hypothesis testing using the Wilcoxon test.

The result of Wilcoxon test is presented in the following table:

Table 2: Result of Wilcoxon test on social skills of teenage students with mild developmental disabilities.

No	Name	Score		Difference	Rank	Symbol	
		Posttest (A)	Pretest (B)			(+)	(-)
1	AM	194	162	32	1	1	0
2	AS	187	142	45	3	3	0
3	AN	165	107	58	6	6	0
4	PI	176	119	57	5	5	0
5	HK	177	121	56	4	4	0
6	IM	173	136	37	2	2	0
Total						21	0

Table 2 shows the difference between pretest and posttest scores and students' ranking. The smallest absolute value or J became the basis for hypothesis testing using the Wilcoxon test.

The proposed hypotheses are as follows:

- H1 = The apprenticeship system can improve the laundry skills of special senior high school students with mild developmental disabilities at SLB C YPLB Majalengka.
- H0 = The apprenticeship system cannot improve the laundry skills of special senior high school students with mild developmental disabilities at SLB C YPLB Majalengka

The significance level was 0.05.

The hypothesis testing used a one-tailed test. If the observed J is smaller or equals the critical J, the null hypothesis is rejected (Susetyo, 2010, p. 230).

- H0 is rejected if $J_o < J_c$
- H0 is accepted if $J_o > J_c$
- If H0 is rejected, the apprenticeship system can improve the laundry skills of special senior high school students with mild developmental disabilities at SLB C YPLB Majalengka.
- If H0 is accepted, the apprenticeship system cannot improve the laundry skills of special senior high school students with mild developmental disabilities at SLB C YPLB Majalengka.

The result of the calculation revealed that the observed J was 0. With a significance level of 0,05 and the sample size of 6, the critical J was 0. Since $J_o = 0 \leq J_c = 0$, H0 is rejected. It can be concluded that the apprenticeship system improved the laundry skills of special senior high school students with mild developmental disabilities at SLB C YPLB Majalengka.

3.2 Discussion

The result of the calculation revealed that the observed J was 0. With a significance level of 0,05 and the sample size of 6, the critical J was 0. Since $J_o = 0 \leq J_c = 0$, H0 is rejected. This means that the apprenticeship system improved the laundry skills of special senior high school students with mild developmental disabilities at SLB C YPLB Majalengka.

This finding is in agreement with Sofyandireja's (2012) work, which found that apprenticeship system improved the cleaning service skills of special senior high school students with mild developmental disabilities. In addition, Mumpuniarti (2006) says that an apprenticeship system is a program to improve vocational skills in an education setting. On-job training is carried out with a careful consideration and with regard to students' skills, abilities, and readiness. This is in line with what Anwar (2012, p. 80) says that an apprenticeship system allows students to experience the real work environments so as to improve their skills. Pereira, Kyriazopoulou, and Weber (2016) state, "... competent staff can build trust and strengthen relationships with employers, contribute to the adjustment of educational and vocational training curricula to work needs and help open employment opportunities for learners."

During the apprenticeship, the researchers observed not only students' skills and performance in doing laundry, but also some other aspects affected by the conduct of the research; among others:

- A change in the laundry shop owner's paradigm. They became aware of the intellectually disable children's capability and could trust them to do laundry works. This trust even landed two best performers of the six apprentices the job at the

shop. According to Shah (2008) and ILO (2011) in Pereira, Kyriazopoulou, and Weber (2016), "...students should be the key informant for the professionals. Their wish and hopes should not be taken for granted especially during the transition phase of their life. If students are involved in the process of finding and selecting appropriate job opportunities, perhaps their transition to the workplace will run smoothly. An ecological approach should be done during the job selection, especially for those with high intellectual disabilities. This can be done by finding appropriate job environments, not by changing certain social behaviors.

- The improvement of students' self-confidence in their work environments. This could be seen in their behavioral change from showing shyness and timidity to enthusiasm when doing their works. This resulted in satisfactory performance.
- This intrigued the school to establish partnerships with other corporations for another apprenticeship programs. The school became aware that what students needed most was self-reliance, so they could get a job once they finish their study.

It was observed that during the apprenticeship, there were some problems such as:

- The instructors at the laundry shop did not really understand the intellectually disable children's characters. Sometimes their instruction could not be really understood by the children. Pereira, Kyriazopoulou and Weber (2016) say that it is observed in many European countries that it is necessary to provide an inclusive vocational education and training (VET) at the local administrative level. The focal point is to help local policy makers be more committed to the inclusive ideas. It also helps establish formal or informal alliances between educational institutions and companies / administrations, for example through corporate social responsibility (CSR) activities or negotiated agreements. This eventually facilitates relationships between students and corporations/employers as a relevant aspect during transition from VET to the labor market.

- More supervision is required because the intellectually disable students have difficulties in understanding a new situation.

4 CONCLUSIONS

Overall, students' laundry skills improved after the apprenticeship. In addition, they earned trust from the laundry shop, and it is not impossible for them to be hired by the laundry shop in question.

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