

# **Vocational Training and Labour Market Transitions: A Randomized Experiment Among Cambodian Young Adults**

**The International Workshop on Policy  
Development Research**

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**Chandarany Ouch  
Cambodia Development Resource Institute (CDRI)**

# Background



- Lack of skills is one of the key determinants of unemployment, poverty and crime, as well as a key limitation on growth in developing countries (Attanasio, Kugler and Meghir, 2011).
- Scant evidence on the effectiveness of training in improving labour market transitions among youth in developing countries
- Mixed findings from recent randomised evaluations of vocational training programs on employment, earnings, and skills development (i.e, Attanasio, Kugler and Meghir, 2011; Card et al., 2011; Cho et al., 2013; Hirshleifer et al., forthcoming)
- New research approach and new evidence to inform job- and skill-related policy discussion in Cambodia

# Research objectives and questions



- Use RCT to examine impact of a short-term vocational training program in hospitality on employment.
- Focus on youth (ages 15-30) from low-income households
- Answer the following questions:
  - Does training help individuals obtain a job?
  - What are the barriers to take-up training and to complete it?

# Design



**Recruitment  
and  
Randomization**

**Treatment group  
receives training**

**Treatment group  
completes training**

**Baseline survey  
(Jun – Sep 2016)**

**Follow-up survey  
(Jan – Mar 2017)**



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D'ENFANT

**Trainings**

**Treatment group  
looks for jobs**

**Control group looks for jobs**

# Target Population



- Participation Criteria:
  - low-income youths (ages 15-30)
  - living in Phnom Penh
  - being able to read and write
  - willing to participate in the training
- The targeted recruitment areas: Slums in nine districts (out of 12) of Phnom Penh
  - Village visits to distribute/post the recruitment advertisement
  - Receive registration during village visits and through phone call

**វិទ្យាស្ថានបណ្តុះបណ្តាល និងស្រាវជ្រាវវិស្វកម្មកម្ពុជា (CDPR) រួមសហការជាមួយ អង្គការ**  
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**គោលបំណងនៃការស្រាវជ្រាវ** គឺជាការស្រាវជ្រាវ ដើម្បីស្វែងរក និងកំណត់ប្រភេទបណ្តាញដែលមានលក្ខណៈ  
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**លទ្ធផលនៃការស្រាវជ្រាវ**

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# Intervention



- Provide two-month training in housekeeping
  - One-month classroom lecture
  - One-month practical work at PSE
  - And internship at hotels/ apartments
- Classes run
  - Monday-Saturday morning
  - 7:00am - 12:00pm and 2:00pm - 5:00pm



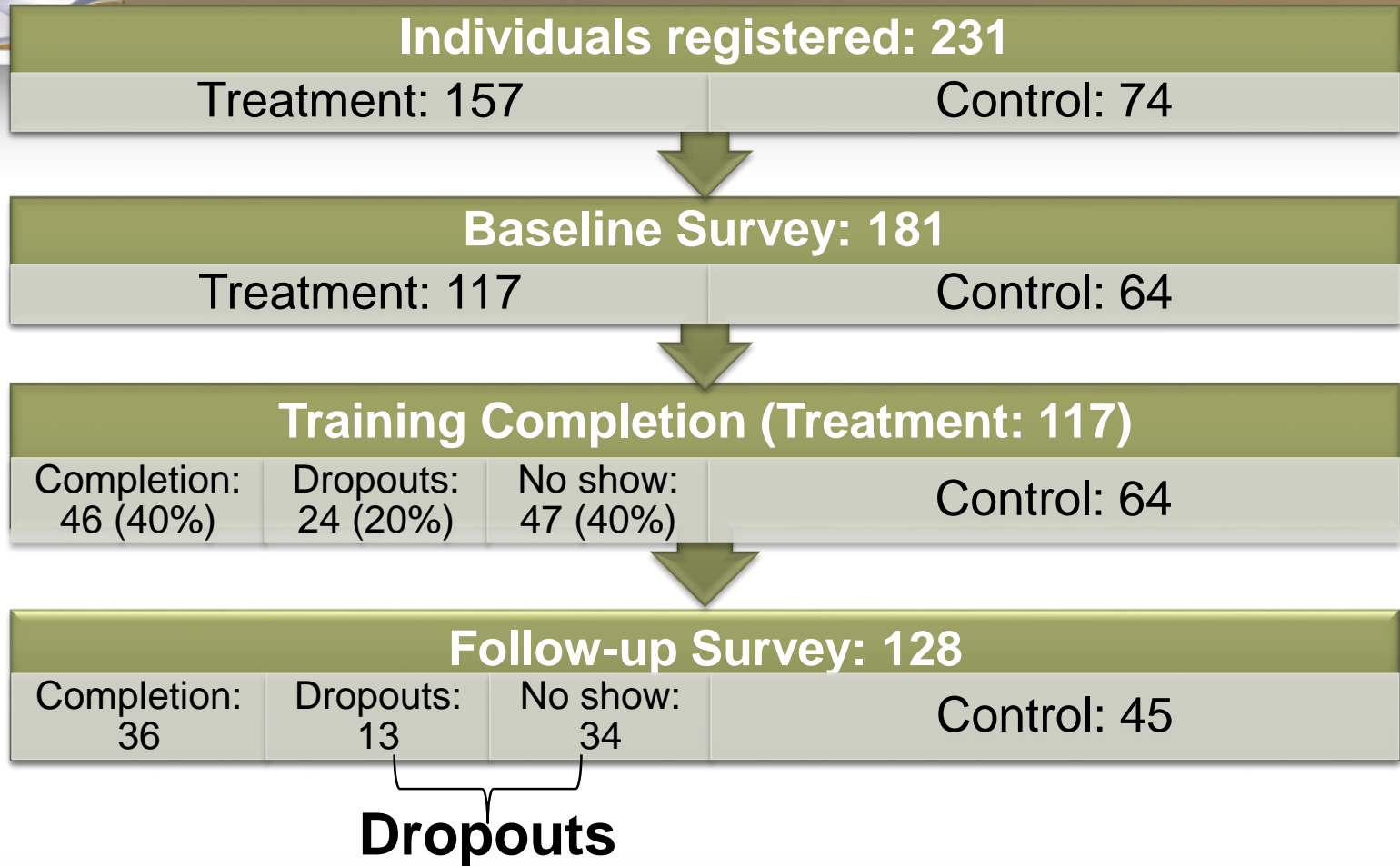


# Intervention (con't)

- Trainees received:

Recruitment round	School fee, study materials, uniform and lunch	Rice allowance: 3.5 kilograms per week	Free shuttle bus service	Transportation allowance
Round 1	Yes	Yes	Yes	No
Round 2	Yes	Yes	Yes	No
Round 3	Yes	Yes	Yes	\$1 per training attendance
Round 4	Yes	Yes	Yes	\$1 per training attendance

# Sample size





# Definitions of Main Variables



Variables	Definition
Employed	= 1 if the participant is employed (full-time, casual or self-employed), 0 otherwise
Full-time/ casual employment	= 1 if the participant is employed full-time or for casual wage, 0 otherwise
Self-employment	= 1 if the participant is self-employed/ own-account worker
Hour worked	= Number of hours worked during the last week
Monthly earnings (0000 riels)	= Total monthly earnings during the last month
Hour worked (if employed)	= Number of hours worked during the last week if participant is employed (full-time, casual or self-employed)
Monthly earnings (if employed)	= Total monthly earnings during the last month if participant is employed

# Basic Characteristics



	Baseline					Follow-up				
	Treatment		Control		Test (P-value)	Treatment		Control		Test (P-value)
	N	Mean	N	Mean		N	Mean	N	Mean	
Age	83	20.69 (3.75)	45	21.38 (3.35)	<b>0.304</b>	83	21.25 (3.74)	45	21.84 (3.38)	<b>0.379</b>
Male (=1)	83	0.60 (0.49)	45	0.53 (0.50)	<b>0.454</b>	83	0.60 (0.49)	45	0.53 (0.50)	<b>0.454</b>
Education (years)	83	7.48 (2.97)	45	7.07 (3.54)	<b>0.482</b>	83	7.49 (2.99)	45	7.11 (3.63)	<b>0.523</b>
Married (=1)	83	0.16 (0.37)	45	0.40 (0.50)	<b>0.002</b>	83	0.17 (0.38)	45	0.38 (0.49)	<b>0.008</b>
Work experience (months)	83	8.37 (22.46)	45	10.24 (16.87)	<b>0.625</b>					
Training experience (=1)	83	0.23 (0.42)	45	0.18 (0.39)	<b>0.502</b>					

# Labor Market Outcomes

## Treatment vs. Control



	Baseline					Follow-up				
	Treatment		Control		Test (P-value)	Treatment		Control		Test (P-value)
	N	Mean	N	Mean		N	Mean	N	Mean	
Employed	83	0.22 (0.41)	45	0.36 (0.48)	<b>0.091</b>	83	0.72 (0.45)	45	0.73 (0.45)	<b>0.900</b>
Full-time/casual employment	83	0.17 (0.38)	45	0.24 (0.43)	<b>0.306</b>	83	0.66 (0.48)	45	0.62 (0.49)	<b>0.651</b>
Self-employment	83	0.05 (0.22)	45	0.11 (0.32)	<b>0.187</b>	83	0.06 (0.24)	45	0.11 (0.32)	<b>0.310</b>
Hours worked	83	9.29 (19.11)	45	17.11 (26.48)	<b>0.057</b>	83	36.03 (28.77)	45	38.78 (28.52)	<b>0.606</b>
Monthly earnings (0000 riels)	83	11.00 (22.56)	45	16.07 (24.06)	<b>0.238</b>	83	34.59 (25.59)	45	50.88 (54.10)	<b>0.022</b>
Hours worked (if employed)*	18	42.83 (15.53)	16	48.13 (21.55)	<b>0.414</b>	60	49.84 (21.23)	33	52.88 (18.70)	<b>0.493</b>
Monthly earnings (if employed)*	18	50.72 (17.96)	16	45.19 (17.16)	<b>0.367</b>	60	47.85 (16.28)	33	69.39 (51.97)	<b>0.004</b>

# Attrition



	Attrition	Attrition
	(1)	(2)
Treatment	0.010	0.011
	(0.073)	(0.074)
Age	0.012	0.025
	(0.010)	(0.098)
Age <sup>2</sup>		-0.0003
		(0.002)
Education (years)	-0.005	-0.005
	(0.011)	(0.011)
Male (=1)	0.041	0.040
	(0.076)	(0.076)
Married (=1)	0.030	0.029
	(0.091)	(0.092)
Observations	181	181

Note: Attrition takes a value 1 if the participants could not be traced during follow-up survey and 0 otherwise. The table reports the marginal effects evaluated at the mean from the Probit estimation. Regressions include recruitment round dummies. Robust standard errors in parentheses. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.10$

# Treatment Effects




	Employed	Full-time/ casual employment	Self- employment	Hours worked	Monthly earnings (0000 riels)	Hours worked (if employed)	Monthly earnings (if employed)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treatment	0.013 (0.085)	0.067 (0.093)	-0.034 (0.042)	-2.874 (5.414)	-14.113* (7.602)	-6.679 (4.316)	-19.932** (8.600)
Individual characteristics and recruitment round	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared				0.073	0.103	0.115	0.114
Observations	128	128	128	128	128	93	93

Notes: Columns (1) – (3) report the marginal effects evaluated at the mean from the Probit estimation. Standard errors in parentheses are clustered at individual level.

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

# Treatment Effects



	Employed (1)	Full-time/ casual employment (2)	Self- employment (3)	Hours worked (4)	Monthly earnings (0000 riels) (5)	Hours worked (if employed) (6)	Monthly earnings (if employed) (7)
Treatment	-0.111 (0.103)	-0.058 (0.109)	-0.038 (0.038)	-6.550 (4.440)	-2.173 (4.178)	-6.133 (6.555)	9.463 (5.873)
Time	0.435*** (0.106)	0.412*** (0.101)	0.003 (0.027)	21.593*** (5.024)	34.414*** (7.972)	4.299 (5.013)	27.806** (10.935)
<b>Treatment*time</b>	<b>0.131 (0.131)</b>	<b>0.136 (0.126)</b>	<b>0.016 (0.040)</b>	<b>4.935 (6.242)</b>	<b>-11.528 (8.678)</b>	<b>0.892 (6.597)</b>	<b>-28.936** (11.358)</b>
Individual characteristics and recruitment round	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared				0.235	0.246	0.090	0.126
Observations	256	256	256	256	256	127	127

Notes: Columns (1) – (3) report the marginal effects evaluated at the mean from the Probit estimation. Standard errors in parentheses are clustered at individual level.

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10



# Completion Effects: Completion vs. Control



	Employed (1)	Full-time/ casual employment (2)	Self- employment (3)	Hours worked (4)	Monthly earnings (0000 riels) (5)	Hours worked (if employed) (6)	Monthly earnings (if employed) (7)
Completion	-0.274* (0.148)	-0.173 (0.155)	-0.107* (0.064)	-10.104** (5.060)	-6.003 (5.203)	-8.597 (9.911)	7.992 (12.319)
Time	0.438*** (0.107)	0.414*** (0.102)	-0.004 (0.033)	21.240*** (5.137)	34.277*** (8.139)	4.598 (5.151)	29.495** (12.193)
<b>Completion*time</b>	<b>0.299* (0.165)</b>	<b>0.272* (0.162)</b>	<b>0.076 (0.086)</b>	<b>10.831 (7.088)</b>	<b>-4.987 (9.375)</b>	<b>4.088 (10.343)</b>	<b>-22.177 (14.974)</b>
Individual characteristics and recruitment round	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared				0.280	0.283	0.101	0.137
Observations	162	162	162	162	162	79	79

Notes: Columns (1) – (3) report the marginal effects evaluated at the mean from the Probit estimation. Standard errors in parentheses are clustered at individual level.

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

# Completion vs. Dropouts




	Employed (1)	Full-time/ casual employment (2)	Self- employment (3)	Hours worked (4)	Monthly earnings (0000 riels) (5)	Hours worked (if employed) (6)	Monthly earnings (if employed) (7)
Dropouts (=1)	0.273* (0.148)	0.291* (0.153)	-0.000 (0.034)	9.315** (4.504)	10.674** (5.044)	6.843 (11.227)	8.849 (12.045)
Time	0.729*** (0.126)	0.716*** (0.125)	0.023 (0.039)	32.813*** (4.999)	29.953*** (4.373)	8.597 (8.920)	3.662 (11.300)
<b>Dropouts*time</b>	-0.273* (0.156)	-0.270* (0.156)	-0.020 (0.043)	-10.188 (7.268)	-11.623* (6.553)	-5.820 (10.582)	-9.338 (12.702)
Individual characteristics and recruitment round	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared				0.258	0.232	0.170	0.135
Observations	166	166	166	166	166	78	78

Notes: Columns (1) – (3) report the marginal effects evaluated at the mean from the Probit estimation. Standard errors in parentheses are clustered at individual level.

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

# Completion vs. Control + Dropouts



	Employed (1)	Full-time/ casual employment (2)	Self- employment (3)	Hours worked (4)	Monthly earnings (0000 riels) (5)	Hours worked (if employed) (6)	Monthly earnings (if employed) (7)
Completion	-0.236* (0.133)	-0.222 (0.137)	-0.030 (0.046)	-8.145** (3.680)	-6.262 (4.232)	-7.199 (9.289)	1.333 (10.854)
Time	0.452*** (0.072)	0.433*** (0.069)	0.004 (0.020)	21.929*** (3.721)	26.101*** (4.767)	3.829 (3.761)	11.972* (6.721)
<b>Completion*time</b>	<b>0.275* (0.147)</b>	<b>0.271* (0.145)</b>	<b>0.039 (0.062)</b>	<b>10.297* (6.085)</b>	<b>3.166 (6.536)</b>	<b>5.737 (9.409)</b>	<b>-6.292 (11.630)</b>
Individual characteristics and recruitment round	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared				0.238	0.232	0.078	0.062
Observations	256	256	256	256	256	127	127

Notes: Columns (1) – (3) report the marginal effects evaluated at the mean from the Probit estimation. Standard errors in parentheses are clustered at individual level.

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

# Barriers



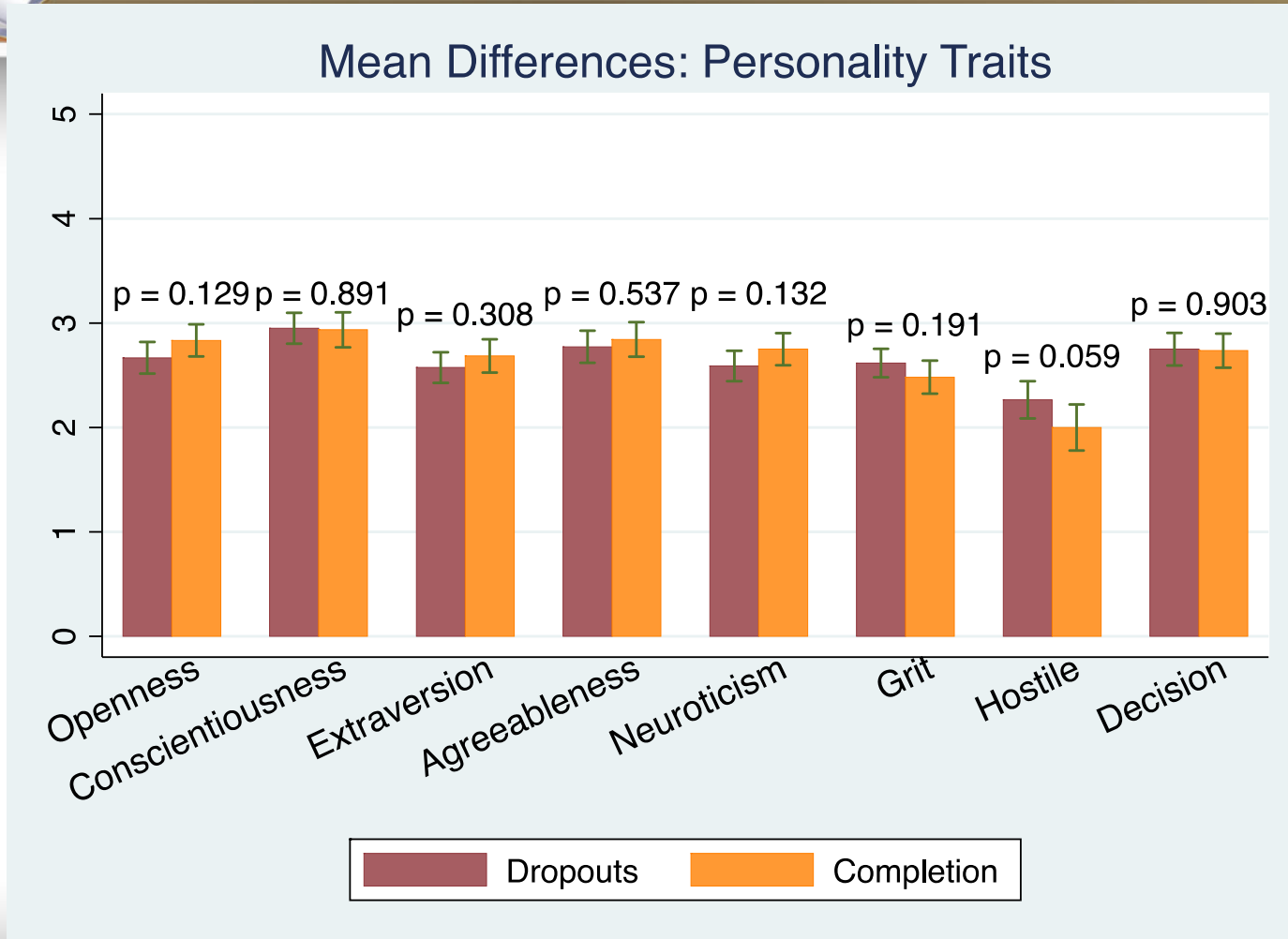
- Examine individual barriers to taking up and completing the training
- Explore individual-level differences in personality traits and risk and time preferences that may lead to low attendance and completion rates

# Reasons for Dropouts



Reasons	N	%
Household/family obligation (including taking care children/family members)	15	31.91
Had no transportation to training site	11	23.40
Found work opportunities	8	17.02
No monetary incentive for participating in the training	4	8.51
Lost interest in training/ Dissatisfied with training	3	6.38
Others (got married, migration, sick)	6	12.80
<b>Total:</b>	<b>47</b>	<b>100</b>

# Mean differences: Personality Traits Completion vs. Dropouts





# Risk and Time Preferences



Treatment vs. Control	Treatment		Control		Test (P-value)
	N	Mean	N	Mean	
Switching row in risk	79	2.98 (3.11)	39	2.87 (2.86)	<b>0.863</b>
Switching row in time	81	1.27 (2.21)	44	1.61 (2.65)	<b>0.444</b>
Completion vs. Control	Completion		Control		Test (P-value)
Switching row in risk	33	3.18 (3.26)	39	2.87 (2.86)	<b>0.669</b>
Switching row in time	36	1.17 (1.96)	44	1.61 (2.65)	<b>0.404</b>
Completion vs. Dropouts	Completion		Dropouts		Test (P-value)
Switching row in risk	33	3.18 (3.26)	46	2.83 (3.02)	<b>0.619</b>
Switching row in time	36	1.17 (1.96)	45	1.36 (2.41)	<b>0.705</b>

# Conclusions



- There is a significant positive impact of training program on employment of disadvantaged youth in the short-run, but no significant impact on earnings.
- There is no significant differences in personality traits and risk and time preferences between those who completed the training and those who dropped out, suggesting that there is no selection (out of the program) bias among the two groups.

# Lessons



- Some disadvantaged youth have been exposed to violence, illegal drugs and crime in the areas where they live. They tend to have poor attitudes or a lack of motivation, leading to a low commitment to invest in education or training.
- Family support is important to encourage disadvantaged youth to take up and complete the training and gain job-related skills.
- Migration for short-term and temporary jobs is major challenge to trace participants.

# Lessons



- In addition to training, job-readiness training, job placement assistance, career guidance and counselling are important to help disadvantaged young people to break into the labour market.

# Lessons



- It is a big challenge to keep participants in the training and have them complete it. There are three factors to be considered:
  - 1) providing training that responds to actual labour market needs;
  - 2) ensuring strong collaboration from institutes/centres that provide the training; and
  - 3) providing financial compensation in terms of saving or income generation activities to participants during the training.

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