

An Evaluation of a Pedagogy Enhancement Programme for Alternative Learning Centres in Sabah

Open
Access

RosePatsy Tibok^{1,*}, Chiam Sun May², Vincent Pang³

¹ Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia

² Department of Mathematics and Science, Teacher Education Institute (Kent Campus), 89207 Tuaran, Sabah, Malaysia

³ Centre for Teaching Excellence and Academic Quality, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia

ARTICLE INFO

ABSTRACT

Article history:

Received 3 January 2019

Received in revised form 16 January 2019

Accepted 21 January 2019

Available online 27 January 2019

For the undocumented children in Sabah, access to a rigorous and formal framework of schooling and learning is oftentimes hindered by existing national laws, policies and procedures which stipulate education, either in government or private schools, as a priority specifically for Malaysian citizens and legalised foreigners only. Children without any documentation as such do not have any recourse to formal education or participation in any form of formalised school learning. Alternative Education Programmes (AEPs) in Alternative Learning Centres (ALCs) are conceptualised to address this exclusion and provide some form of education to the undocumented children who would otherwise be deprived of any form of schooling and learning. This paper presents an evaluation of a pedagogy enhancement programme for teachers of several ALCs with the programme attainment ascertained using the Kirkpatrick and Kirkpatrick (2006) Four-step evaluation model. The result of the evaluation aims to facilitate decision-making for follow-up programmes for this particular group, or similar future target groups. The evaluation report would also serve as a reference point for the future design, implementation, and evaluation of other enhancement programmes for ALCs.

Keywords:

Alternative education programmes,
alternative learning centres,
undocumented children, pedagogy
enhancement

Copyright © 2019 PENERBIT AKADEMIA BARU - All rights reserved

1. Introduction

Alternative Education Programmes (AEP) offered in Alternative Learning Centres (ALCs) provide an alternative pathway whereby children who are unable to gain access into mainstream education due to lack of proper legal documentation could participate in some form of schooling and learning. AEPs are often structured parallel to or as an abridged version of the learning offered in the formal education system [1] and could be conceptualised in two forms either (i) as a means of alternative access (for those unable to gain access to mainstream education due to factors such as absence of documentation or challenging geographical location), or (ii) as alternative content with the focus on

* Corresponding author.

E-mail address: rose.tibok@ums.edu.my (RosePatsy Tibok)

fulfilling a perceived gap in the education system for a specific target group or duration of learning. AEPs aim to develop knowledge, skills, and behaviour that could potentially impact the recipient group's future social and economic development; as such, the rigour and intended outcomes of such programmes might differ from the conventional formalised schooling structure [2]. UNESCO [3] views AEPs as a platform from which disadvantaged or marginalised communities could develop literacy and numeracy skills, acquire self and social awareness, and promote lifelong learning skills - core and essential attributes towards the development and forward thrust of a society.

However, although studies have indicated AEPs as an enabler in the Asia-Pacific region in terms of helping countries progress more efficiently towards the 2015 Education for All (EFA) goals on providing opportunities and pathways for marginalised groups [3], in Malaysia such programmes are not perceived as equivalent to existing forms of formal education. This is unlike Thailand, Indonesia, Sri Lanka, the Philippines, India, Bangladesh, and Nepal where AEPs are viewed as providing an equivalent form of learning in subjects such as basic literacy, numeracy, Science, languages, life skills, citizenship culture, social life, moral values, and ethics.

1.1 Alternative Education Programmes

Under the Malaysian Education Act 1996, education access and equity for every child is clearly outlined with quality learning and instruction being the ultimate aim for all. There is however no defined provisions of education opportunities for refugee, undocumented and stateless children [4] as the rights, accessibility, opportunity, type, and outcomes of education expressed in the Act by implication apply only to Malaysian citizens and documented non-citizens [5]. Numerous figures have been proposed for the actual number of undocumented children in Malaysia - in Sabah alone, a fluid estimate of 50,000 undocumented children mostly from the illegal Filipino and Indonesian communities has been suggested [6] although this number could not be construed as definitive. In the Sabah context, 'undocumented children' refers not only to the young among the illegal immigrant population without any form of documentation but also to locals whose births were not officially registered due to various reasons. Without the necessary forms of documentation, basic privileges and rights provided to citizens in terms of security, social welfare, health care, and education remain out of reach. The educational opportunities provided in mainstream education in government schools are then effectively beyond the access of the undocumented child. This is where AEPs in ALCs become very significant and relevant.

1.2 Alternative Learning Centres in Sabah

AEPs in Sabah are envisioned, implemented and managed by ALCs established by various stakeholders comprising employers, plantation owners, non-governmental organisations (NGOs), and faith-based groupings. Given this diverse range of providers and their specific inclinations or objectives, the AEP curriculum would inevitably differ across ALCs. ALC education is provided from Year 1 to Year 6 with the initial point of entry set at six years old although this is not strictly enforced and a high degree of flexibility is practised. It is not uncommon in the ALCs to have a diverse age range within one class (for example, an 18-year-old student in Year 6). A study of the AEP provided by an ALC in Sabah's West Coast by Chiam, Pang, Tibok, Han, Yoon and Ngui [7] found that the students benefited from the learning engagement and were able to utilise the acquired learning in their daily lives in terms of increased knowledge, enhanced skills and more positive attitudes. Another study found ALC education to have a significant role in the positive engagement of

behaviour, attitude and values of not only the learners themselves but also the wider family and social structure of the intended community [8].

The teaching staff as the implementers of the learning in the ALCs are from different education and training backgrounds ranging from volunteers (who form the majority) to paid teachers. In some ALCs managed by NGOs and faith-based organisations, the teachers are also drawn from the alumni of the centre itself i.e. those who have completed their learning and are perceived as able and capable to impart this learning to other children. Given this distinct lack of teaching exposure and experience, there is a need to equip and support ALC teachers with training in teaching methodologies, approaches and techniques. The Pedagogy Enhancement Programme for ALCs was conceptualised based on this perceived need. The objectives of the programme were pegged to the concept of providing continuous professional development opportunities to ensure the ALC teachers, given their lack of teacher training and education background, are exposed to current teaching methodologies, classroom management practices, and development of teaching-learning resources in a supportive and collaborative environment.

The initial teacher enhancement programme in this study was conducted in October 2017 as an intensive two-day exercise held in a local university. The ALCs which participated in this programme were establishments sited in refugee resettlements regulated by the National Security Council as well as centres managed by NGOs and faith-based organisations. The courses in this particular programme were on 21st century learning, Numeracy, Science, English language, classroom management, and utilisation of teaching-learning resources.

1.3 Choice of Kirkpatrick's Four-Level Evaluation Model for Study

Since the pedagogy enhancement programme conducted in October 2017 was the first such initiative, there was a cogent need to determine the viability of continuing with the training and how it might be improved in terms of thrust and content should it be sustained. The decision to use Kirkpatrick's Four-level Evaluation Model was based on the fit of the model with the evaluation intent. The Model posits that a training programme is evaluated for the purpose of justifying its continuation, termination, or restructuring of content [9]. Programme impact is established in terms of participants' reactions, learning, behaviour, and results on the organisation. A cohesive training programme could be planned and implemented based on a ten-step procedure: (i) determining needs, (ii) setting objectives, (iii) determining subject content, (iv) selecting participants, (v) determining appropriate schedules, (vi) selecting appropriate facilities, (vii) selecting appropriate facilitators, (viii) selecting and preparing materials, (ix) coordinating the programme, and (x) evaluating the programme [9][10] with the training impact evaluated at the domains of (i) Level 1 – Reactions (*How did the participants react to the programme?*), (ii) Level 2 – Learning (*What did the participants learn?*), (iii) Level 3 – Behaviour (*What long-term effects does the programme have on the participants?*), and (iv) Level 4 – Results (*What benefits are derived by the organisation from the training programme?*). The Kirkpatrick model is also seen as a practical choice given that each level could be evaluated as a separate entity, while training is in progress, or in the form of immediate post-tests when the training activity is concluded, or at a later date.

2. Methodology

A total of 39 ALC teachers participated in the programme. These participants represented a diversity of backgrounds: 74.4% were female, 82.1% had teaching qualifications, 48.7% were with

Sijil Tinggi Persekolahan Malaysia (STPM) or Sijil Pelajaran Malaysia (SPM) qualifications, 48.7% had five years or less teaching experience, and 56.4% were teaching multiple subjects in the ALCs.

Based on the Kirkpatrick’s training evaluation model [9][10], the researchers constructed a questionnaire consisting 21 items distributed according to the four levels of programme attainments. Part A and Part B consisting eight and four items respectively measured participants’ perception on attainment of Level 1 (Reaction) and Level 2 (Learning). Due to time constraints, Level 3 (Behaviour) and Level 4 (Results) attainments were proxy measurements whereby the participants indicated the expected attainment based on their programme experience and expectation. Responses to the items in the survey were indicated using the ordinal scale (a five-point Likert scale) whereby 1 indicated ‘Strongly disagree’ to 5 with ‘Strongly agree’. The questionnaire also captured demographic data such as type of ALC, academic qualifications, teaching experience, and whether the participants were teaching single or multiple subjects.

The questionnaire was administered at the end of the programme. Data was analysed using Winsteps, an analysis programme based on the Rasch model [11]. The data was analysed in stages with those of a respondent (R21) and two items (A3 and C5) discarded due to extreme unfit values. The final items which were considered for data analysis are shown in Table 1. Six open-ended items were used to obtain qualitative data for triangulation purposes.

Table 1
 Items considered for analysis

Level	No	Item
1	A1	This course is beneficial.
	A2	This course offers valuable input.
	A4	I am satisfied with the course content.
	A5	This course fulfils my requirements.
	A6	I am comfortable with this course.
	A7	The resources used are suitable.
	A8	The course delivery is good.
	2	B1
B2		I acquired skills from this course.
B3		I obtained new ideas from this course.
B4		My motivation increased after attending this course.
3	C1	I am able to teach Languages more effectively after attending this course.
	C2	I am able to teach Numeracy more effectively after attending this course.
	C3	I am able to teach Science more effectively after attending this course.
	C4	I am able to integrate 4K+N study skills in teaching and learning after attending this course.
4	D1	I will contribute towards making the ALC an effective place of learning.
	D2	Students under my care will obtain improved achievements after this.
	D3	I support the establishment of a network of ALC teachers.
	D4	I am able to share knowledge and information with my colleagues.

Apart from Rasch model analysis, effect size [12] was also used to compare the measures of the participants based on demographic variables. Effect size is the difference between two means divided by the pooled standard deviation.

The construct validity of the instrument was reflected by the raw variance explained by measures of 41.6% obtained from principal component analysis of Rasch residue (PCAR). According to Linacre [13], a variance of more than 40% indicates items to be uni-dimensional. As shown in Table 2, construct validity of the instrument is further reflected by infit mean squares of within the acceptable values of 0.5 to 1.5 [14]. The internal consistency value of the instrument was at 0.82 which indicates that the instrument was reliable.

Table 2
 Item statistics misfit order

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S. E.	INFIT MNSQ	ZSTD	OUTFIT MNSQ	ZSTD	PTMEASUR-CORR.	AL-EXP.	EXACT OBS%	MATCH EXP%	Item	
1	186	38	-1.51	.61	1.30	.8	1.43	.7	A	.29	.42	86.7	88.1	A1
16	178	38	-.39	.41	1.41	1.5	1.41	1.1	B	.47	.59	73.3	73.3	D1
8	184	38	-.88	.52	.99	.1	1.40	.7	C	.43	.48	86.7	84.5	B1
12	166	38	2.11	.36	1.36	1.5	1.35	1.4	D	.67	.72	56.7	65.9	C1
17	176	38	.71	.40	1.36	1.5	1.26	.9	E	.51	.61	70.0	70.0	D2
13	172	38	1.30	.37	1.25	1.1	1.14	.6	F	.60	.66	53.3	66.8	C2
9	177	38	.55	.40	1.03	.2	1.10	.4	G	.55	.60	70.0	71.4	B2
6	178	38	.39	.41	1.05	.3	1.07	.3	H	.58	.59	70.0	73.3	A7
14	170	38	1.58	.37	.93	-.2	1.02	.2	I	.69	.68	80.0	66.4	C3
15	167	38	1.98	.36	.96	-.1	.98	.0	J	.68	.71	63.3	66.2	C4
18	184	38	-.88	.52	.98	.1	.64	-.3	i	.54	.48	86.7	84.5	D3
4	181	38	-.17	.45	.88	-.3	.64	-.7	h	.62	.54	80.0	79.0	A5
11	178	38	.39	.41	.88	-.4	.76	-.6	g	.64	.59	83.3	73.3	B4
3	182	38	-.38	.47	.77	-.7	.83	-.1	f	.57	.52	83.3	81.0	A4
5	181	38	-.17	.45	.75	-.8	.58	-.8	e	.62	.54	80.0	79.0	A6
10	185	38	-1.17	.56	.71	-.7	.50	-.5	d	.54	.45	93.3	86.3	B3
2	188	38	-2.45	.79	.58	-.7	.16	-.5	c	.45	.31	93.3	93.4	A2
7	185	38	-1.17	.56	.54	-1.3	.35	-.8	b	.59	.45	93.3	86.3	A8
19	183	38	-.62	.49	.53	-1.6	.41	-1.0	a	.64	.50	93.3	82.7	D4
MEAN	179.0	38.0	.00	.47	.96	.0	.90	.0				78.8	77.4	
P. SD	6.3	.0	1.19	.10	.27	.9	.38	.7				12.0	8.3	

3. Results

The findings of the evaluation could be seen from the Wright [15] map produced by Winsteps (Figure 1). The left side of the map shows the participants arranged according to likeliness to agree to items. The higher the position of the participant, the higher the likeliness to agree to items. For example, participants R12, R13, R26, R27, R28, R31, R32 and R38 were most likely to agree to items in the instrument while participant R25 was least likely to agree to items.

The right side of the map shows the items according to likeliness to be agreed to. For example from the bottom the most agreeable items in descending order are A2 (*This course offers valuable input*), A1 (*This course is beneficial*), A8 (*The course delivery is good*), B3 (*I obtained new ideas from this course*), B1 (*I obtained knowledge from this course*), and D3 (*I support the establishment of a network of ALC teachers*).

On the other hand, the difficult to agree to items in descending order are C1 (*I am able to teach Languages more effectively after attending this course*), C4 (*I am able to integrate 4K+N study skills in teaching and learning after attending this course*), C3 (*I am able to teach Science more effectively after attending this course*), C2 (*I am able to teach Numeracy more effectively after attending this course*), D2 (*Students under my care will obtain improved achievements after this*), and B2 (*I acquired skills from this course*).

Since the same scale is used for both person (participant) and item, the participants have a 50:50 chance of agreeing to the items placed at the same level. Items which are at lower levels of the participants are likely to be agreed upon, and *vice-versa*. The bigger the gap of the level of the participants and items, the stronger the likelihood of agreement or disagreement. A comparison of the left side with the right shows that in general, the items were easily agreed to by the participants. The implication thus is that the participants were generally happy with the perceived attainment in Level 1 and Level 2 as well as the expected attainments in Level 3 and Level 4. Based on the positions of the participants and items, it is likely that all participants with the exception of R24, R36, R30, R16, R34, R22, and R25 agreed to the items. The details of these participants are summarised in Table 3. These teachers represented various ALCs, experience and course attendance backgrounds.

INPUT: 38 Person 29 Item REPORTED: 38 Person 19 Item 3 CATS WINSTEPS 4.1.0

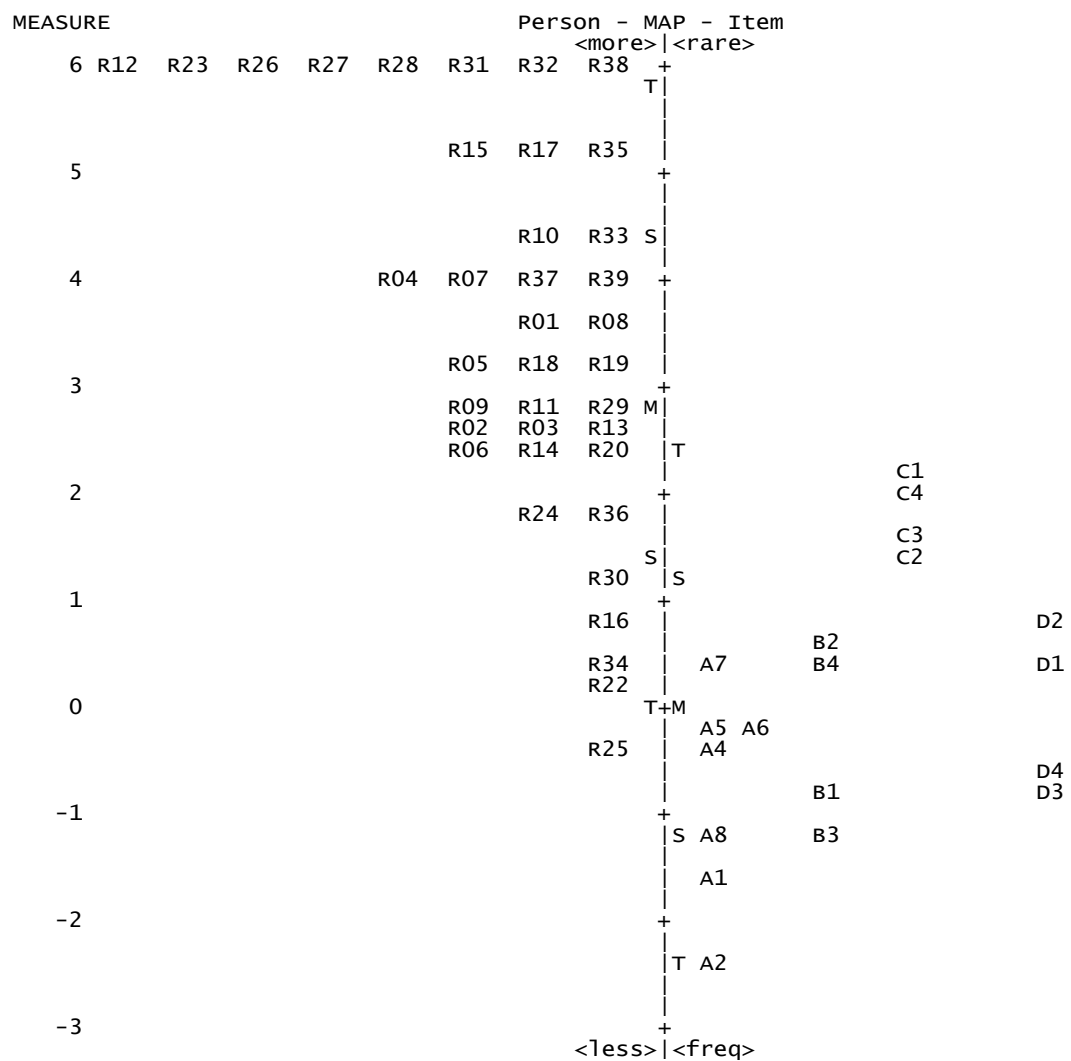


Fig. 1. Wright map

Table 3
 List of participants who perceived less attainment

Participant	Type of ALC	Experience	Courses Attended
R24	Govt	6 to 10	Yes
R36	NGO	0 to 5	No
R30	NGO	0 to 5	No
R16	NGO	6 to 10	Yes
R34	Govt	6 to 10	Yes
R22	Govt	11 to 15	Yes
R25	NGO	16 to 20	Yes

The comparison of the left and right side of Wright map indicates all participants were likely to agree to items A4, A8, A1, A2, B1, B3, D4 and D3. Comparison of the items according to attainment level shows the likeliness of agreement reducing as the level moves from A items (Level 1) to B items

(Level 2) to C items (Level 3). However the likeliness to agree to D items (Level 4) increases thereafter. These imply that the perceived attainment of Level 1 is more than that of Level 2 and the perceived attainment of Level 2 higher than the expected attainment of Level 3. However, the expected attainment of Level 4 is higher compared to Level 3.

The attainment of programme outcomes is also compared using effect size based on demographic variables of the participants. Based on the cut-off points of Cohen [12], Table 4 shows that the training programme produced slightly higher effects on participants from government ALCs compared to those from NGO ALCs, and those who taught single subjects compared to those teaching multiple subjects. There is negligible difference in effect between those with five years teaching experience or less and those with more experience, and between teachers with SPM and STPM qualifications and those with diploma or degree.

Table 4
 Comparison of participant measures based on demographic variables

Variable		Mean	Pooled std dev	Effect size	Effect
ALC type	Government	4.19	2.01	0.41	Small
	NGO	3.35			
Experience	0 - 5 years	3.84	1.94	0.07	Nil
	> 5 years	3.70			
Subjects taught	single	4.14	2.01	0.39	Small
	multiple	3.35			
Qualification	SPM and STPM	3.48	2.14	0.02	Nil
	Diploma + Degree	3.43			

4. Conclusions

This study provided an analysis of the pedagogy enhancement programme evaluation through the use of Rasch measurement. Based on the findings and analysis from the Wright map, quantified qualitative data, demographic variables and effect size, several conclusions could be drawn.

The Wright map and the quantified qualitative data showed that this programme was able to provide useful input with the participants acquiring knowledge, skills and new ideas in the teaching and learning of Language, Numeracy, and Science. Participants were motivated and gained confidence to teach their students and collaborate with their colleagues and co-workers.

The Wright map showed most of the participants had positive impressions of the training programme and gained learning experience (Level 1). The participants agreed that their knowledge or intellectual capability was enhanced after their learning experience (Level 2). Most participants perceived positive effects on their career development or classroom practice as a result of the programme (Level 4). However, they were uncertain of their ability to apply what they had learnt and *whether* they would be able to experience change in their behaviour (Level 3). Therefore, to assist them further after this initial enhancement programme, good support from trainers would be necessary in addition to the positive involvement of administrators or managers in their practice.

From the summary of the list of participants who perceived less attainment, little conclusion could be drawn based on the type of ALC, their experiences and courses that they had previously attended. To obtain a better understanding of this aspect, further study should consider the sampling adequacy. From the comparison of participant measures based on demographic variables, the slightly higher effects on participants who were from government ALCs compared to those from NGO ALCs may be due to the input of the programme being more inclined to the Malaysian curriculum design

and context in the former. It was also noted that there were slightly higher effects on participants teaching single subjects compared to those teaching multiple subjects. This might be due to insufficient content knowledge or lack of ability to integrate their skills and competencies in pedagogy.

This study has presented information that would be useful as feedback to assess the strengths and weaknesses of the training programme with the data used to develop curriculum design and implementation, and evaluation of similar programmes for ALCs. In terms of pedagogy, it could serve as a reference source for future improvement in teaching approaches and learning styles in ALCs.

References

- [1] International Institute for Educational Planning (IIEP). (2009). Policy Brief on Alternative Education: Filling the gap in emergency and post- conflict situations. Paris. UNESCO.
- [2] Farrell, Joseph P., and Ash Hartwell. *Planning for successful alternative schooling: A possible route to Education for All*. UNESCO, International Institute for Educational Planning, 2008.
- [3] UNESCO. (2012). Alternative Learning/ Schooling Programmes in the Asia Pacific Region. Asia Pacific Programme of Education for All (APPEAL) by UNESCO Bangkok. Unpublished Seminar Slides.
- [4] UNICEF. "Mapping alternative learning approaches, programmes and stakeholders in Malaysia." *Kuala Lumpur: UNICEF Malaysia* (2015).
- [5] Pang, V., Ling, M.T. & Tibok, R.P (2019). The Achievement Of Children In An Alternative Education Programme For Refugee, Stateless And Undocumented Children In Sabah. (Unpublished).
- [6] Sayed Mahadi, Syed Abdul Razak Bin. "Indonesian labour migration to Sabah: changes, trends and impacts." PhD diss., 2014.
- [7] Pang, Vincent, Sun May Chiam, Rose Patsy Tibok, Crispina Gregory K. Han, Sook Jhee Yoong, and Wirawati Yi Xe Ngui. "A product evaluation of an alternative education programme for undocumented children in Sabah." *Journal of Advanced Research in Social and Behavioural Sciences* 5, no. 1 (2016): 47-55.
- [8] Han, Crispina Gregory K., Vincent Pang, Rose Patsy Tibok, Yoon Sook Jhee, C. G. K. Han, V. Pang, R. P. Tibok, and Y. S. Jhee. "PROCESS EVALUATION OF AN ALTERNATIVE EDUCATION PROGRAMME FOR REFUGEE, UNDOCUMENTED AND STATELESS CHILDREN IN SABAH." *International Journal* 2, no. 4 (2017): 23-39.
- [9] Kirkpatrick, D.L. & Kirkpatrick, J.D. (2006). *Evaluating Training Programs: the four levels* (3rd ed.). San Francisco, CA : Berrett-Koehler.
- [10] Kirkpatrick, D.L. (1994). *Evaluating Training Programs: The Four Levels*. San Francisco: Berrett-Koehler.
- [11] Alagumalai, Sivakumar, David D. Curtis, and Njora Hungi. *Applied Rasch measurement: A book of exemplars*. Dordrecht, the Netherlands: Springer, 2005.
- [12] Cohen, Jacob. "Statistical power analysis for the behavioural sciences." (1988).
- [13] Linacre, John M. "Data variance explained by Rasch measures." *Rasch Measurement Transactions* 20, no. 1 (2006): 1045.
- [14] Linacre, J. M. (2016). *A User's Guide to WINSTEPS MINISTEP Rasch-Model Computer Programs*. Beaverton, Oregon: Winsteps.com.
- [15] Wright, B.D. & Stone, M. H. (1979). *Best Test Design Rasch Measurement*. Mesa Press, Chicago. Retrieved from <https://research.acer.edu.au/June 21 2018>.