



DEVELOPMENT OF ANDRAGOGY-BASED ON THE JOB TRAINING MODEL USING WATER HYACINTH IN GORONTALO REGENCY



Misran Rahman¹

¹Universitas Negeri Gorontalo

ABSTRACT

This research is aimed at investigating the development of andragogy-based on the job training model to train the people in creating handicrafts made from water hyacinth. This research is a training model conducted in the workplace with internship method. The final output expected in this research is the effectiveness of the model in improving the competencies of the apprentice as well as nurturing their sense of independence. The method used in this research is research development and experiment. The development of the model follows the following steps: (1) identification of potentials and problems, (2) data collection, (3) training design, (4) design validation, (5) design revision, (6) Empirical Trial Phase I, (7) Revision of the result from empirical test phase I, (8) empirical test phase II, (9) Revision of the result from empirical test phase II, (10) recommended model. This experimental method is used for empirical trials. The output of this study, quantitatively revealed that there is a significant improvement on the competence of magang. Hal this means that the model based on the job training andragogi effective for improving the competence of apprentices in the use of water hyacinth plants. Furthermore, the results of a qualitative study, it was revealed that the presence of some capabilities and behaviors that support the increasing competence. Finally, through the analysis of attitudes, found the attitude of apprentices after following the Andragogy-Based on the Job Training Model.

© 2016 AESS Publications. All Rights Reserved.

Keywords: Model, On the job training, Andragoy.

Contribution/ Originality

The results of this study are expected to contribute to: the development and utilization of water hyacinth plant cultivation, development of citizen competence in the intellectual effort of society, improving the welfare of citizens, as well as the development of learning in training activities, especially training in the workplace.

1. INTRODUCTION

Limboto Lake's current problem is the fastest growing water hyacinth plants that can grow to cover the surface of the lake. In addition to that, people consider water hyacinth as intruder to the lake's habitat. Regardless, the water hyacinth has many benefits. Thus, using water hyacinth for the benefit of improving the people's welfare is necessary. One of the benefits of water hyacinth is as the raw material for handicraft. The prospect of handicraft made from water hyacinth is quite promising. The handicrafts made from water hyacinth are now marketed inside the country and some are exported to international markets. Therefore, processing water hyacinth to create handicrafts is one of the alternatives to increase people's income.

In Telaga Jaya sub-district of Gorontalo Regency, there are some villages located in the banks of Limbotolake. For the people of these villages water hyacinth are abundantly available. Thus, the opportunities for these villagers to

create handicrafts of water hyacinth are widely open. A survey in one of the villages in the bank of Limbotolake that was trained in processing the water hyacinth showed that people who had participated in the training have high interest and strong motivation to develop themselves. Therefore, people need to be trained to be professional in processing the water hyacinth to make handicrafts. In this research, several villages in the bank of Limboto Lake were chosen to be the location for development of training to process water hyacinth. In relation to that training, the researcher developed on the job training model, that was on work placement training. The training method used in this research was internship method. The approach used in this training was andragogy approach, hence, the model is called andragogy-based on the job training. Therefore, the title of this research is “Development of Andragogy-based on the job training model using the water hyacinth”.

2. METHOD

This research uses qualitative and quantitative approach. The research method used in this research is educational research and development method or R & D method. This model of development was modified by Sugiyono (2009) with ten steps of: (1) identification of potentials and problems, (2) data collection, (3) training design, (4) design validation, (5) design revision, (6) Empirical Trial Phase I, (7) Revision of the result from empirical test phase I, (8) empirical test phase II, (9) Revision of the result from empirical test phase II, (10) recommended model and dissemination of model. The scheme of this research procedure is as seen in the Figure 5 below. The empirical test uses experiment model. The data collection method uses test, questionnaire, and interview.

3. STATISTICAL ANALYSIS

Experiment method is used for empirical test. Therefore, the techniques of data analysis used are:

- a. In pairs differentiation test to test the significance between the pretest and posttest in phase I test and Phase II test from the knowledge score and the skill score.
- b. In pairs differentiation test to test the significance of the neutral attitude and observation result attitude.

The SPSS version 15.0 is used to test the significance differences of the pretest and posttest by using the paired t test (data with normal distribution). Further, to analyze the significance differences between the neutral attitude and the observation result attitude, the Wilcoxon paired test is used. The significance level used in this research is 0.05

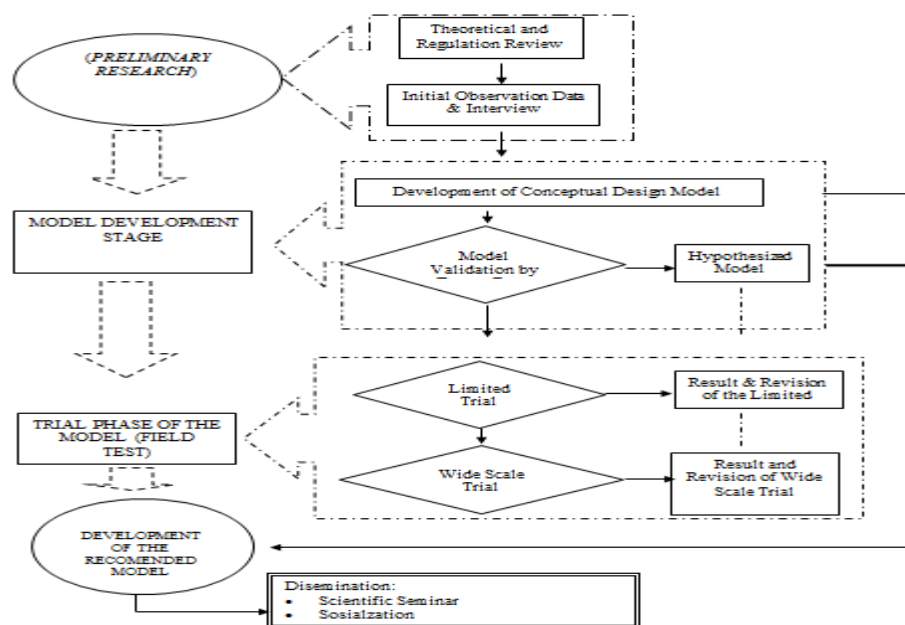


Diagram-1. Reserach Procedure and Scheme

Source: Sugiyono (2009)

4. RESEARCH RESULT

a. Initial Study

The initial study revealed that the people in several villages in Limboto Lake banks work as farmers, merchants, businessmen, and government employees. The lands owned by the people are mostly rice field and dry farm field. Hence, most of the people work as farmers in the rice fields and in the dry farm land. Nevertheless, there are lands that were not optimally managed by the people.

b. Development of Internship Model

Development of the model is conducted through (1) development of conceptual model, (2) model validation, and (3) development of hypothetical model. The assumptions used by the researcher to develop this conceptual model are: (i) psychologically every human being has a drive to create something out of his/her aspiration; (ii) best learning is through direct experience; (iii) effective learning is often happened when the learning is personal experience; (iv) learning is an interaction process between learners and teacher, learning sources that involves the physical and psychological aspect to create capacity and capability of the learners in managing the environmental change; (v) learning is the result of social engineering made by the individuals or group in which the existence can be changed, shaped, or formulated and studied based on needs; (vi) internship participants are adult that need acknowledgement in learning, have knowledge and experience, thus the offered training model need to be adjusted with their needs and related to the profession and real life needs, thus, it can give learning motivation; (vii) (vii) Adult learners can determine their learning objective by questioning “what does he learn for? Why does it have to be learned? And what is the relationship between the learning with his or her daily work?

Through the research principles above, this paradigm of andragogy-based on the job training method is categorized into four components, namely: (1) raw input, (2) process, (3) output, and (4) outcome. The raw input in the model consists of the initial competencies mastered by each internship members. Following that, the process model consists of: (a) activity planning, (b) implementation of activity, and (c) evaluation of the internship activity. Next, the output model either is an improvement of competencies either the knowledge, skill, or responds toward the implementation of the internship. Finally, the outcome model is an implementation of the model after the learners return among the community.

Specific for the process model made from the internship activity with the sequence of (i) internship activity planning, (ii) implementation of the internship activity, and (iii) monitoring and evaluation of the internship activity. Planning activity consists of identification of needs, formulation of objectives and internship activity planning, and monitoring and evaluation design. The next step in the internship activity consists of learning activity in during the internship time. Finally, the monitoring and evaluation of the internship activity is conducted by monitoring the whole activities during the internship program.

In this research, the research focused on the implementation stage of the internship activity. In the learning activity during the internship consists of planning the learning activity, implementation of learning activity, and evaluation of the learning activity. The study on the learning activity during the internship time produces a conceptual design on the internship learning activity as shown in Diagram 2 page 8.

In next model development stage, the output from the conceptual design is validated by the validator team that consists of experts in informal education from the Universitas Negeri Gorontalo and practitioners from the Education Quality Assurance Agency of Gorontalo Province (LPMP). The validation is made on the content, construct, and materials of the model. Several critical assessments proposed by the experts related to the development of andragogy-based on the job training are:

- 1) Internship is a system consists of interrelated elements that clearly complement each other. Therefore, the model needed to be equipped with additional components to support the learning model, such as, description of the model objective, significance of the model development, preparation for the model implementation, and evaluation strategy that supports the attainment of the model development.

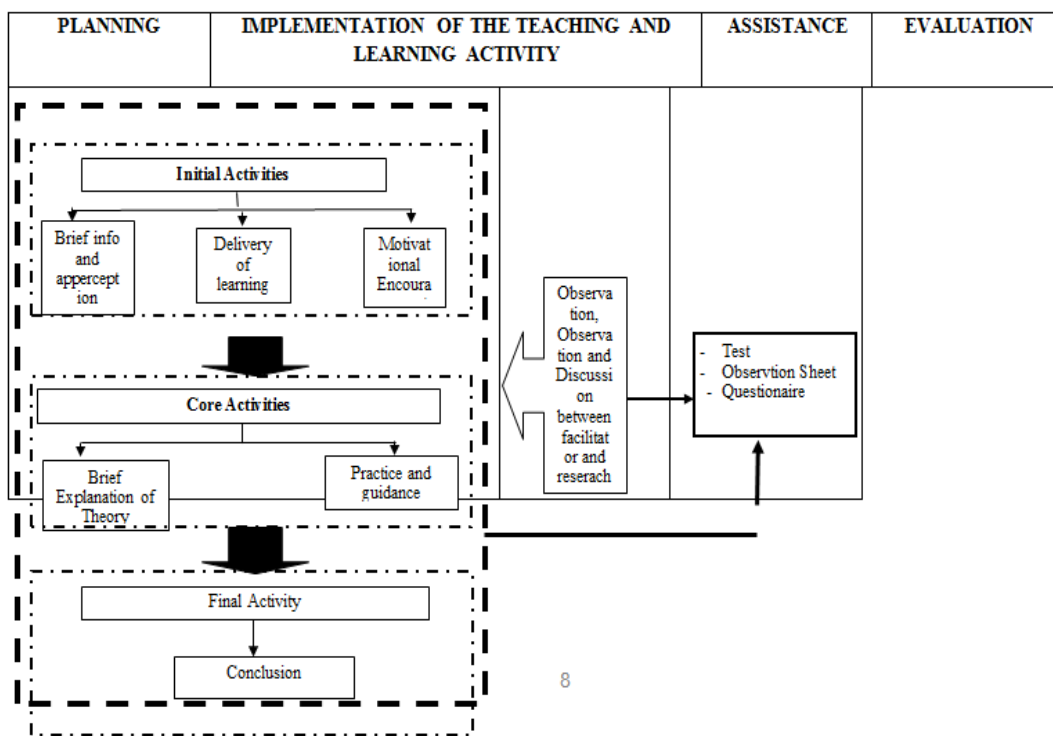


Diagram-2. Design Scheme of Conceptual Model for Andragogy-Based On the Job Training

Source: The Results of the Analysis Researchers

- 2) Instrument of achievement indicators need to be set in implementation of the model, thus each aspect are clearly measurable.
- 3) Language usage and development of instrument should be made as simple as possible to suit the ability of the target group
- 4) At the end of the core learning activity, affirmation of concept that has been learned is needed.

In addition, the result of the analysis and input from practitioners on the conceptual model are as follow:

- 1) Harmonizations of activities among facilitators need to be optimized in order to minimize different perception on the learning activity management.
- 2) In Activity flow, for initial activity, the physical and psychological preparation of the internship participants is important. Thus, in the initial activity there should be four activities conducted, namely, physical and psychological preparation of the internship participants, apperception, internship objective delivery, and motivational encouragement.
- 3) Intensive monitoring need to be done during the internship activity.

Based on the assessment input from the experts and practitioners, a revision of the model was made with the following consideration:

- a) The systematic of the learning model is adjusted to the type of model;
- b) Instruments for the achievement indicators in internship model implementation should be clearly measured;
- c) Additional mental and physical preparation for the internship participants is added to the initial activities and affirmation session is added to the core activities.
- d) Within the description on the model, an andragogy explanation of the facilitators' activities should be included.

Based on the assessment and input from the experts and practitioners, the hypothetical model design is formulated to be empirically tested in a small group. Schematically, the design of the hypothetical model of the andragogy-based on the job training model is available in Diagram 3 below:

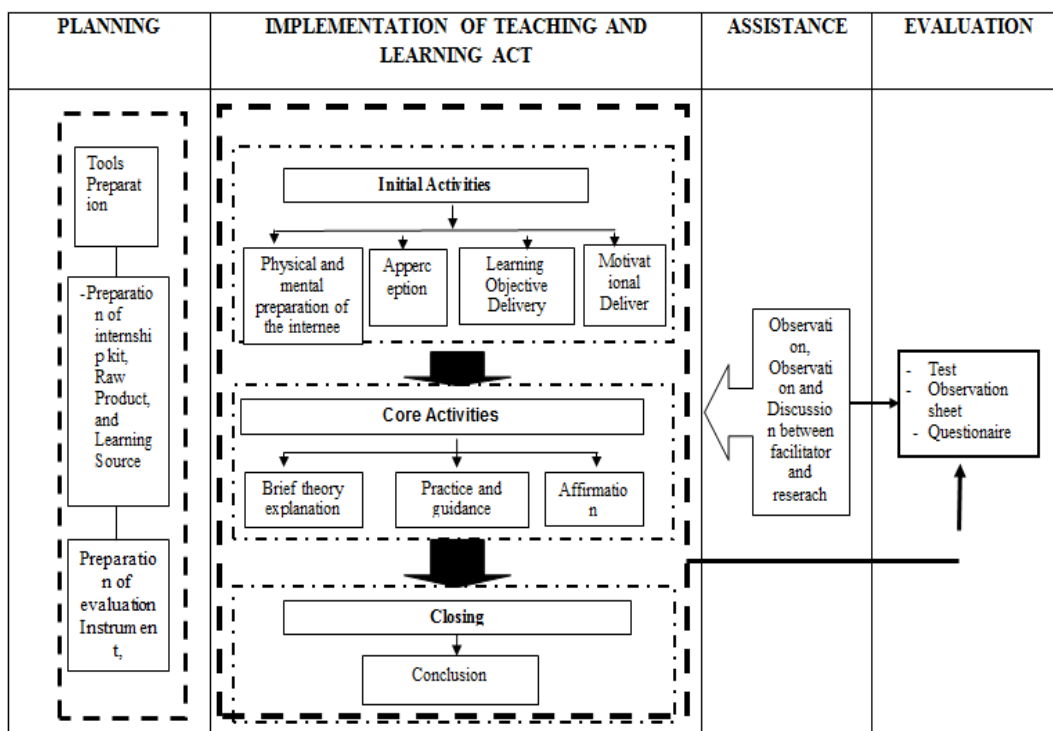


Diagram-3. Design Scheme of Hypothetical Model of Andragogy-Based On The Job Training

Source: Research Result

c. Empirical Trial of the Model

The Empirical Trial of the model is conducted qualitatively and quantitatively. The quantitative trial is conducted using the statistical analysis, meanwhile, the qualitative trial is made using the percentage of the observation and interview result. Empirical test result is made of: (i) test result, (ii) observation result, and (iii) questionnaire result. The empirical test was conducted toward 15 respondents. The result of this test is available in the following Table 1.

Table-1. Percentage Distribution on Knowledge Dimension Mastery

No	Sub-Competencies	Posttest
1.	Water Hyacinth Concept	69.78%
2.	Entrepreneurship Concept	72.67%
Average		71.22%

Source: Research Result

From Table 1 it is evident that the percentage of ability shown by the apprentice following the three day limited test, the ability to comprehend the concept of water hyacinth and its usage was 69.78% and the ability to comprehend the entrepreneurship concept was 72.67%. Overall, the apprentice comprehension on both topics was 71.22%.

Further, on the significance of average competency score for comprehension of water hyacinth concept and entrepreneurship concept using the parametric statistical test in which the competency standard was 60%. The t value for the test score of concept comprehension of the apprentice on the concept of water hyacinth was 5.80, with the significance level of 0.; and the score of the comprehension of entrepreneurship concept was 3,207 with the significance level of 0.03. Using the significance level of 0.05, in which, statistically the significances of each t value were less than 0.05, thus, statistically, the competency of the apprentice on the concept of water hyacinth and the entrepreneurship concept was significantly more than 60%.

In skill aspect with the score range of 1-4, the score result on the skill of the apprentice is available in the following Table 2.

Table-2. Score of the Apprentice Skill

No	Score	Percentage
1.	Highest	90.00%
2.	Lowest	76.67%
Average		82.44%

Source: Research Result

From Table 2 above it was evident that the highest score was 90% and the lowest score was 76.67%, and the average score was 82.44%. The significance test of the average score of the competency test conducted using the parametric test, in which the competency standard was 75%, it was found that the t value was 7.704, and the significance of both parties were 0. With the significance level < 0.05 , hence, statistically, the apprentice skill was significantly more than 75%.

Finally, on the evaluation of attitude through score of the apprentice responds toward: (1) aspect of handicrafts using water hyacinth, (ii) aspect of the andragogy-based on the job training model, and (iii) aspect of competencies improvement. The distribution of the responds score is available in the following Table 3.

Table-3. Distribution of the Apprentice Responds Score toward the Implementation of Andragogy-Based On the Job Training Model

No	Responds Toward	Responds Score		Neutral Score	
		Average	Standard Deviation	Average	Standard Deviation
1	Water Hyacinth Handicraft	2.29	0.29	1.83	0.18
2	Model On the Job Training	2.32	0.34	1.99	0.24
3	Competencies Improvement	2.30	0.32	1.91	0.20

Source: Research Result

Next, for the significance test of comparison between the averages responds score and the neutral score using the non-parametric statistical test as seen in Table 4 below:

Table-4. Distribution Score of Apprentice Responds toward the Implementation of Andragogy-Based On the Job Training Model

No	Responds Toward	Z Value	Sig	Note
1.	Water Hyacinth Handicrafts	-2.673	0.008	
2.	Andragogy-Based On the Job Training Model	-4.064	0.000	
3.	Competencies Development	-3.523	0.000	

Source: Research Result

As in the previous Table 3 in general the average responds score were higher than the neutral score, thus, in Table 4, in the z values in each aspects had less than 0.05 significant level. Hence, statistically, the average responds score is significantly different from the average neutral score.

Furthermore, the qualitative analysis of the trial test depicts impression during the limited trial test. Those impressions were: (i) apprentice are motivated to learn, (ii) their independence are started to emerge. In addition, several other findings were also revealed as input to improve the developed model, such as, apprentices work better with the affirmation and motivation.

5. DISCUSSION

In tone with the initial study conducted in the villagers surrounding the Limbotolake, many of them are still jobless. In addition, Limbotolake has water hyacinth potential to be processed by the jobless people as an alternative source of income.

In some areas in Indonesia, including Gorontalo, the water hyacinth has been utilized. One of the ways to utilize the water hyacinth is to transform them into handicrafts. Therefore, as an alternative job and source of income, the community needs to be trained to have skills in creating handicrafts made from water hyacinth. This research is an initial effort to train the community in processing the water hyacinth.

The training model offered in training the people to create handicrafts using water hyacinth is the andragogy-based on the job training model. One of the model's methods is through internship/apprenticeship. In order to find out whether the model is effective or not, this research is conducted to develop the model studied in this research.

Model development is conducted using the stages of research, development modified by Sujono. The process of model development initiated with creating the conceptual design of the model focused on the internship learning model. Following this stage, the conceptual design of the model is validated by a team of validators that consists of informal education experts from Universitas Negeri Gorontalo and practitioners from the LPMP of Gorontalo Province. The input and recommendation from the validators are considered in developing the hypothetical model. Following the revision of the model, the hypothetical model is tested through empirical test.

The quantitative result of the empirical test on the apprentices knowledge score, where, the t test result with the significance level of <0.05 showed that the apprentices were able to show sufficient understanding on the concept of water hyacinth and the entrepreneurship. Therefore, it was concluded that the on the job training model through apprenticeship could improve the apprentices' knowledge on the concept of water hyacinth and entrepreneurship.

Next, the empirical test result on the score of the apprentices skill, where the t test with the significance value less than 0.05 showed that the apprentices were able to show sufficient skill, above 75%. Therefore, it was concluded that the on the job training model through apprenticeship activity could improve the skill of the apprentices.

Subsequently, on the aspect of the attitude toward the on the job training model tested through the score of responds, in which the significance value of the average responds score and the average neutral score, with both significance value less than 0.05, it was concluded that in general the apprentices gave positive responds toward the implementation of the andragogy-base on the job training model apprenticeship

In addition, the qualitative analysis on the monitoring and mentoring, it was found that during the apprenticeship activity, the apprentices appeared to be motivated, and their independence to work actively and to keep enthusiast on their activity were also noted.

However, there were some apprentices complained about the same treatment toward apprentices with different ability. Those findings are listed as other input to be considered in the development of the model. The consultancies and discussion with experts and practitioners revealed some inputs and recommendation that needed to be included in the design of the training components, such as, program design, identification of materials and facilitators, development of the program structure and schedule, selection of strategy, method, and approach, and selection of the media and kit that would be used in the training. Those inputs and recommendations were noted to be used in the revision of the developed model.

6. CLOSING

The following conclusions were drawn from this research:

- 1) Development of andragogy-based on the job training model is started by developing the hypothetical model based on the theoretical and regulation review.
- 2) The validation result toward the hypothetical model produced several revisions of the hypothetical model.
- 3) The result of empirical test revealed that the developed on the job training model was quite effective, though there were minor revision made.

- 4) The follow up step is the empirical test in a wider community using the findings in this research as the input to revise and improve the developed model.

REFERENCES

Sugiyono, 2009. Penelitian Pendidikan, Pendekatan Kuantitatif, Kualitatif, dan R & D. Bandung: Alfabeta.

BIBLIOGRAPHY

- Abdulhak, I., 2000. Strategi membangun motivasi dalam pembelajaran orang dewasa. Bandung: Andira.
- Darma, A., 1998. Perencanaan pelatihan. Jakarta: Pusdiklat Depdikbud RI.
- Davis, J.R. and D. Adelaide, 1996. Effective training strategies. San Francisco: Berret-Koehler Publishers Inc.
- Dedi, S. and S.A. Benyamin, 1990. Strategi belajar mengajar (Diktat Kuliah). Bandung: FPTK-IKIP Bandung.
- Denny, R., 1993. Sukses memotivasi. Jakarta: PT Gramedia.
- Gerungan, R.A., n.d. Different strategies, models, approaches, methods, and techniques learning. Available from <http://smacepiring.wordpress.com/>.
- Kamil, 2010. Model pendidikan dan pelatihan. Bandung: Alfabeth.
- Little, L.C., 1979. Handbook of utilization of aquatic plant, FAO fisheries technical paper, No. 187. Roma: FAO.
- Malik, H., 2011. Available from <http://edukasi.kompasiana.com/2011/02/23/teori-belajar-andragogi-dan-penerapannya>.
- Mangisah, I.D.K.K., 2003. Evaluasi nutrisi eceng gondokterfermentasi aspergillus niger sebagai alternative pakann. Semarang: Laporan Penelitian.
- Mulyasa, E., 2002. Pengembangan model andragogi bagi pembinaan Nara Pidana perempuan di LP. Bandung: Desertasi PPS UPI, Tidak Diterbitkan.
- Prabu, M.A.A., 2000. Manajemen Sumber Daya manusia Perusahaan. Bandung: PT. Remaja Rosda Karya.
- Rahman, M., 2011. Pengembangan model on the job training berbasis andragogi untuk peningkatan kompetensi pendidik anak usia dini nonformal, jurnal imiah visi kementerian pendidikan nasional, pendidikan anak usia dini, nonformal dan informal pendidikan. Jakarta: Kencana Prenada Media Group.
- Sudjana, D., 1992. Pengantar manajemen pendidikan Luar sekolah. Bandung: Nusantra Press.
- Sudjana, D., 1996. Pendidikan Luar sekolah (Wawasan, Sejarah Perkembangan, Falsafah dan Teori Pendukung, Azas). Bandung: Nusantra Press.
- Syarif, R., 1995. Manajemen latihan dan pembinaan. Bandung: Angkasa.
- Wina, S., 2008. Strategi pembelajaran berorientasi standar dan proses pendidikan. Jakarta: Kencana Prenada Media Group.
- Zimmels, Y., F.A. Kirzhner and Malkovskaja, 2005. Application of eichhornia crassips and pistia stratiotes for treatment of urban sewage in Israel. Journal of Environmental Management 81: 420-428.

Views and opinions expressed in this article are the views and opinions of the authors, International Journal of Asian Social Science shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.