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SOCIETY OF EDUCATIONAL RESEARCH AND EVALUATION IN KENYA

Effectiveness of Transformative Instructional Model on Acquisition of Selected Vocational skills among the Vulnerable Youth in Nakuru County, Kenya

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Abstract
Educators and community trainers have identified the critical role that practical vocational skills can play in the development of broad-based capabilities among the youth. However, the question is whether instructional methods used for practical skills are sufficient to prepare trainees with potentials that reflect and model content productively. This paper presents findings of a study conducted to determine the effectiveness of structured group learning model (SGLM) in acquisition of vocational skills in handicrafts among the vulnerable youth in Nakuru County. The study used quasi experimental design. The Population of the study was 200 identified vulnerable youths in the County. A sample size of 60 members was purposively selected for the study, 30 youth were used as experimental group and the other 30 as control group. Experimental group was trained using (SGLM) methods and a control group was trained through traditional methods. The research instruments were validated and pilot tested, the reliability analysis yielded an index of 0.89 which was sufficient for the study. Data was collected using a guided questionnaire and observation checklist after the training. Pearson chi square was used to test the association between SGLM and acquisition of vocational skills at a significant level of 0.05. The results revealed that there is an association between SGLM and acquisition of some facets of vocational craft skills but not in skill on developing patterns, specifications, branding and packaging of finished products. The Model could be an alternative training strategy for vulnerable youth as it empowers the youth with necessary skills for productive livelihood.
Keywords: *Handicraft skills; Structured Group Learning Model; Traditional; Transformative learning; Vulnerable youth*

1. Introduction

The basic premise of transformative learning is that everyone is capable of learning, if allowed to contribute, create and own the learning process. Teaching and learning practical skills in vocational training should use strategies that impart the right attitudes and psychomotor skills to enable the trainees fit and function well in the society. The methods used should provide opportunities for wholesome individual development; hence the training process should not be undermined.Instructional methods bridge the gap be tween the trainer and the trainees thus coalescing the content, the trainee, the learning environment and the trainer to achieve the desired outcomes (Lucas, Spencer & Claxton, 2012).As observed by Yasunaga, (2014) selecting of instructional methods has over the years been determined by the content with very little emphasis on the nature of learners especially in practical skills.However Instructional methods in vocational programs should impart the basic scientific knowledge, attitudes and practical skills necessary for productive livelihood and national development. The training process should result to acquisition of practical know how make the trainee more recipient creative, productive and functional members of the society (Ahmad, Nordin, Ali, & Nabil, 2015).

Instructional methods can betransmissive where information flows from the trainer to the learner, transformative where the learner is involved from planning the learning process to facilitation or transactivewith minimum participation from the trainees.Transformative approaches are the modern interactive and participative methods of training where the teacher acts as a facilitator but not a custodian of knowledge (Mondugwa, 2012).At the heart of transformative learning are the tenets ofbeing, relating, knowing and doing. This assists in framing and developing the individuals understanding of life and the world around them.Transformative learning is more concerned with the nature and process of learning than the material being learnt.It is an effective tool for widening and increasing social participation and improving the overall gains from learning especially through practical skills (Amaechi & Thomas, 2016).Thus, it empowers learners with options and alternative ways of seeing the world as well aspersonal issues. Economic and social challenges put education and training systems in the front line to equip all youth with skills, knowledge and attitudes to build innovative and creative approaches towards sustainable economic, social and environmental well-being (Reichenbach, Muth & Smith, 2013).Though there are already known instructional methods that can be adopted for vocational skills, it is importantto consider designing an instructional model that will suit the characteristics,challenges and expected learning outcomes for the vulnerable youth.Underpinning the study is transformative theory oflearning,SGLM and techniques weredesigned and organized around the elements of this theory.

1.1 Transformative learning theory

This study is embedded in the transformative learning theory, which is associated with Mezirow and interpreted in form of relationships, critical reflection, active learning experiences and readiness for change on the part of the learners (Mezirow, 1997). Positive change through learning calls for self-awareness on the part of the learners and acceptance of discomfort hence the desire to change. Through the training period the trainees were able to reflect and realize themselves especially during debriefing sessions, which were conducted at the beginning of every training session. The ability to design and develop a craft product gave thetrainees some self-worth, captivated learninginterests and motivation to improve their lives.

According to Joanna, Stephen & Ivor (2013) transformative learning methods address learning from the perspective of individual, social roles, responsibilities and expectations. The trainees are able to build trust and supportive relationships as they interact and listen to each otherin their small learning groups. Direct and active participation during practical offers theman opportunity to relate the content and derive positive meaning and relationships from their everyday life experiences. Our habits and expectations may influence and shape a particular behavior or views. Individual's ability to differentiate right from wrong and make choices is a perspective acquired in childhood through socialization and integration of experiences with different situations and environment (Mezirow & Tyler 2011*)*.This is aperspective that lacks among the vulnerable or disadvantaged youthas they may not have had any experience with teachers, parents or mentorsand their environment may not be conducive for any positive learning. Therefore, the use of SGLM provides an opportunity to interact and form relationships within the learning groups as they carry out the group tasks, while the production of tangible products builds the ability to judge and builds their confidence for the better as supported by Rende, (2017).

1.2 Instructional methods in practical skills vocational programs

Instructional methods in vocational programs should expose the trainees with the basic scientific knowledge, attitude and the practical skills necessary to fit and function well in the society. Though instructional methods must suit the learner's needs and those of the ever- changing society, there are no specific methods that can be recommended for practical skills teaching. However, any effective instructional method in vocational skills should motivate the learner and sustain their interest in the course of instruction as observed by Amaechi and Thomas (2016). Vocational pedagogy is about learning by doing, it emphasizes on psychomotor level of learning which include perception, simulation, confirmation, production and mastery of learnt skills. Traditional instructional methods develop the acquisition of memorization and recall skills but notacquisition of communication, interpersonal, creativity and problem-solving skills which in return would help the trainee fit in the world of work and different life situations (Ahmad, Khair, Dayana, Ali, Nabil and Ablatip, 2017). Structured group learning model uses techniques that are interactive and help the trainees develop attitudes and skills to enable them fit and function well in the society. Therefore, there is need for trainers to adopt transformative methods for effective and sustainable skills training among the vulnerable youth

1.3 Structured Group Learning Model (SGLM)

A learning model is an outline of systematic procedures in organizing experiences to achieve a specific learning outcome. The concept of structured group learningmodel (SGLM) was derived from cooperative learning model, which is an approach that focuses on using small learning groups who work together to achieve a common goal (Lucas B., Spencer E. and Claxton G. 2012). As supported by Ahmad, Nordin, Ali and Nabil (2015), small learning groups are easy to monitor and each member has a responsibility in the learning task while theacquisition of practical skills is manifested in behavioral change which can be observed through interactions during the production process and the final product. SGLM was intentionally structured to suit the content and the nature of trainees.The learning model was structured into a seven- steps activity- based approach where each activity was intended to build on a specific desired skill.The main techniques used to facilitate the learning were; demonstration with question and answers, simulations, games, group projects, role play and computer supported learning.

1.4 Organization of SGLM

During training small learning groups of five trainees were formed and each group developed their objective and group rules. This process enhanced group unity and cohesion as the trainees worked together to achieve the group goal and meet the expected outcomes as is consistent with Sarosa, (2010). The quality of any instructional process determines the productivity level. It is therefore the responsibility of the trainer at whatever level to select and organize the learning process to suit the level of learners and the desired learning outcomes.The principles of group learning, (positive interdependence, accountabilityandteam formation) can be strengthened by the manner in which the groups are organized, size of the group, modalities of performing the task and the way in which the outcome is evaluated.

As noted by Joanna, Stephen and Ivor, (2013) the differencein group size, instructional techniques, supporting technology and the time allocated for the training may influence the quality of interaction and the learning outcomes. This explains the importance of structuring group learning to suit the learner's needs. SGLM was organized into seven steps where each step was facilitated using specific techniques to enhance acquisition of the desired skills. Considering that individuals have different learning styles, varied techniques were applied to ensure that each trainee benefits from the learning process. Facilitation of SGLM was through techniques such as; group discussions, groupprojects (problem solving), academic games, simulations, computer supported learning and role plays which are highly interactive and participatory as supported by Millis (2010). The level of interaction among the trainees is very important in SGLM and starts at group formation and develops into relationships which lead to actual communicative acts during training that enhance their experiences. The learning environment simulated handicraft workshop, while the materials used for practical werecollected by the trainees from the environment. UNICEF (2011) notes that youth trainees should be involved in the learning process as partners not as learners inorder to captivate their interest. Therefore, the trainees were involved in planning the learning experience, selecting the environment to make them own the process hence the relevance of SGLM approach. The involvement of the youth in selecting skills and raw materials to use while producing craft items was crucial in enhancing the acquisition of skills in selecting materials and tools. Their interaction with the learning activities enhanced their thinking and problem -solving skills during production.

1.5 Vocational Skills (Handicrafts)

The selected vocational skill for this study was handicrafts. The skills belong to the broader art and design discipline. Handicrafts provide practical know how and makes the learner creative, productive and functional, members of the society. The skills also provide the vulnerable youth with a tool to sustainable livelihood. Considering that the purpose of any education and training is to enhance sustainable development among the individuals involved as expressed by Morton & Montgomery, (2011). Crafts skills were selected as practical skills to be imparted to the vulnerable youth to help them view the world differentlyand increase their innovativeness, creativity and productivity.

Globally, handicraft are indigenous skills and were passed on from person to person by master craftsmen as part of social activities, especially among the Africans (Schwarz & Yair, 2010).Youth just as adult learners will develop interest in learning based on foreseen benefits during and after the training.Since the main objective of the vulnerable youth groups is to improve the quality of life for the group members, training in craft skills was relevant

as it would result to both economic and social benefits (Mashantile, 2011). Most of the craft products are made from natural materials found within the environment and display a significant touch of cultural values and national heritage. Crafts form part of a people's material culture and therefore important for social inclusion and identity.

Craft skills as creative arts bring a number of other important benefits including; enhancing social cohesion as members work together, reinforcing cultural values as they produce cultural related products as well as raising of self-concept hence reducing dysfunctional behaviors especially among the disadvantaged groups(Reeves, 2011).According to Rende (2017), art and craft skills are important to learners of all age groups as they help to; relieve stress, boost confidence, enhance mental productivity, increases empathy and improve the quality of life. These are important attributes which could be missing among the vulnerable youth due to their social background and negative life experiences. Acquisition of practical skills in handicrafts will help the learner to be productive. Developing economies of the world have used craft skills as a platform to equity and inclusivity as in Malaysia (Halim, Muda & Wang, 2011). Craft skills are taught in American schools to enhances acquisition of transferable skills as but not necessarily for certification as observed by Blair (2012).

In practice the artisans and master crafts men were seen as a community resource and highly esteemed in the society. Similarly learning group members saw other as a resource due to their contribution towards the product development process hence enhancing unity and group cohesion as anticipated. Craft making provides an alternative and effective way of developing personal skills critical for behavioral change (Varmun & Hansen, 2011). The production process requires planning, time management, self-discipline and accountability which apparently build on self-efficacy. The final product results to captivation and pleasure from the immediate and direct aesthetic appearance. This experience provides the learner with new ways of seeing and experiencing the world, which is believed to impact on individual's ability to sense and understand (Lucas, 2014). The modern society requires youth who are creative, problem solvers, independent thinkers and ability to accommodate divergent views and the vulnerable are not exempted. The social skills associated with craftsskills make them an important ingredient for developing the vulnerable youth, who form groups and work as a team to generate group income for inclusivity and empower the members. The prolonged period of training and the use of SGLM were expected to develop teamwork skills and positive social behavior, self-confidence and increased self- efficacy. Learning is reinforced through hands on experiences; hence using interactive methodsto effect acquisition of practical related skills and social values for improved livelihoods would reduce the risk facing the vulnerable group. Therefore, there is need for trainers to adopt instructional methods that will impart sustainable practical skills but also result to behavioralchange among the vulnerable youth

2. Research method

Quasi experimental design was used with non-equivalent groups with posttest interventions. The sample size was 60 members from vulnerable youth groups in the County, who were purposefully selected. Thirty members were used as the experimental group while the other thirty were used as control group. Theexperimental group was trained in handicraft skills through SGLM while control group was trainedin the same skills using traditional methods. Data was collected using a guided questionnaire and observation schedule designed to capture personal significant change which could have resulted fromlearning interactions during the training on craft skills. The datacollection process allowed sufficient interaction between the researcher and the trainees for a better understanding of any form oftransformation.The observation checklist was used to capture the trainees' ability to interpret sketches and verbal descriptions, develop specifications as well as ability to brand and package finished products, which were the specific attributes in handicraft skills whose acquisition was to be enhanced through SGLM. The instruments yielded both qualitative and quantitative data, which was analyzed using Pearson chi square as atest for the null hypothesis; there is no significant association between SGLM and acquisition of practical skills among the vulnerable youth in Nakuru County.

3. Results and discussion

The main objective of the study was to determine whether there was any association between acquisition of vocational craft skills among the vulnerable youth andthe use of structured group learning model during training. Traits associated with practical skills in craft making includes; communicative and listening skills which are manifested through ability to interpret verbal and written descriptions in product development. Creativity and

innovative skills are manifested through ability tobrand and package finished craft items. Skills in problem solving and critical thinking manifested through ability todevelop motifsand specifications for craft products as well. Through a guided questionnaire and observation checklistresponses and performance level were sought from the participants in the experimentaland the control groups. Trainees' ability to carry out activities associated with craft skills was rated in terms of; poor, fair, good or very good and the results are presented as follows:

3.1 Ability to Interpret Verbal and Written Description when Making Crafts

Acquisition of skills to interprete verbal and written description when making crafts is the first level of skillsin designing crafts. This was tested through an observation check list. The results of the observed performance are as shown on Table 1.

Table 1: Ability to interpret verbal and written description when making crafts

		Interpreting verbal and written description				
		Poor	Fair	Good	Very good	**Total**
Training	Treatment	0	1	18	1	20
	Control	3	14	14	0	31
Total		**3**	**15**	**32**	**1**	**51**

The results on Table 1 shows that in the control group which received training through traditional methods, 14 members out of 31 could interpret verbal and written description fairly and another 14 were rated as good. For those trained through SGLM methods 18 manifested good acquisition in interpreting while 1 was rated very good. This means that 19 members out of the 20 respondents in the experimental group acquired the skills. The results indicate that more trainees from the experimentalgroup rated good in this aspect of craft skills and were able to design craft product from a sketch or draw a design by interpreting a verbal description.Only 14 trainees in the control group had acquired the skills.The results indicate that more trainees in the experimental group which was taught using SGLM acquired the skills than those in the control group taught using traditional methods. To test the association of the trainingmethod and skills acquisition a Pearson chi square test was carried out and the results are shown on table 2

Table 2: Chi-Square Test and strength of association for Interpreting Verbal and Written Description

	Value χ^2	df	Asymp.Sig. (2-sided)	Phi Cramer's Value	Approx. Sig. p-value
Pearson Chi-Square	14.048[a]	3	.003	.525	.003
Likelihood Ratio	17.102	3	.001	.525	.003
Linear-by-Linear Association	12.552	1	.000		
N of Valid Cases	51			51	

The calculated Pearson chi square test score is 14.048 as shown in Table 2 with a p- value of 0.003< 0.05 level of significance. This means that acquisition of skills in interpreting verbal and written description when making crafts significantly depended on the method of training used. This implies that there is a positive association and a significant effect of SGLM on the acquisition of this facet of craft skills.

Acquisition of skills in interpreting verbal and written description when making crafts enables a craft designer to communicate, listen and visualize verbal descriptions from customers and translate them into 2 dimensional sketches

as a style for developing a tangible product. Sketching has different functions to the learner. For example, in garment making, sketching allows the collection of sensory impressions, creative thinking, facilitates discovery, ability to formulate solution to problems (Varmun & Hansen, 2011). Skills in interpreting verbal and written description when making crafts, are important as they contribute towards consistency of shape and sizes of craft items. Acquisition of this skill also shows that the trainee is able to communicate and listen to customers as they communicate the design details. SGLM facilitationenabled the training process enhance skills towardspositive change among the vulnerable youth.

3.1 Presentation of the Finished Products

This skill involves ability to package and brand the finished craft product. The information was collected by observing the performance of the trainees as they presented their final products. A graphic representation is shown on Figure 1.

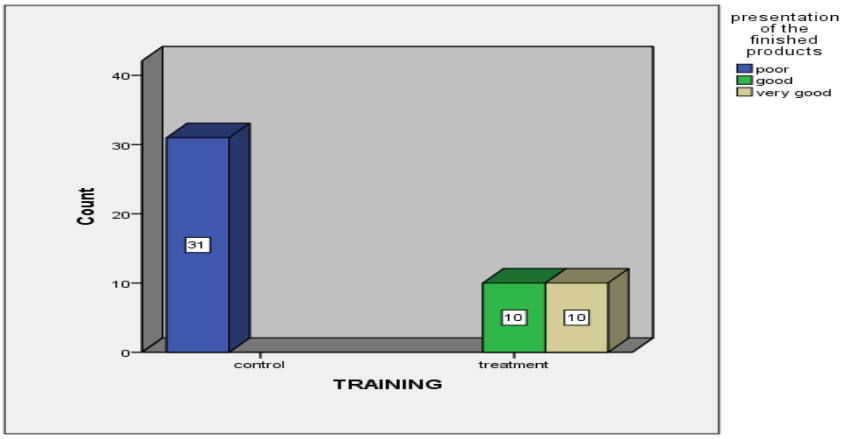

Fig.1: Presentation of the Finished Products

From Figure 1shows that 31 trainees in the control group who received training through traditional methods rated poorly in presentation of finished products skills, as they did not portray enhancedacquisition of this skill. However out of 20 trainees ratedin the experimental group received training through SGLM methods, 10 rated good and 10 very good in presentation of finished products as a craft skill. The result shows that all the 20 respondents in the experimental group acquired this facet of craft skills. To test the association of the training method and skills acquisition a Pearson chi square test was carried out and the results are shown on table 3

Table 3: Chi-Square Test and strength of association for presentation of finished products

	Value χ^2	df	Asymp. Sig. (2-sided)	Phi Cramer's Value	Approx. Sig P-value
Pearson Chi-Square	51.000[a]	2	.000	1.000	.000
Likelihood Ratio	68.310	2	.000	1.000	.000
Linear-by-Linear Association	46.913	1	.000		
N of Valid Cases	51			51	

From table 3 the calculated Pearson chi- square test result obtained is equal to 51.000 with a p- Value of 0.000 < α 0.05 level of significance. The results imply that the method of skill training and the presentation of finished product have a positive association and that SGLM facilitates the acquisition of skills in branding and packaging of finished products as a facet of craft skills. Presentation of the finished product is an important skill to craft designers as it enhances the visual or aesthetic quality of the product an attribute that contributes towards quality and marketing of the product as well as protecting the product.Acquisition of skills in presentation of the finished product is manifested in sound construction processes, branding and packing of the product. These facets are important as they enhance the aesthetic value of the product thus making it attractive to potential customers. The ability to improve the look of the finished product also enhances the trainee's innovativeness, creativity and critical thinking as they look for alternative materials to use as wrappers and packets. This attribute also contributes towards raising the learners' self-esteem (Lucas, 2014).

4. Conclusion

Most of the training methods used by vocational skills trainers are traditional methods that are not effective in the acquisition of affective, psychomotor and other required competencies among the youth.

Vulnerable youth are trainable if trainers seek to use alternative methods that are participatory and address the affective and psychomotor skills.

SGLM methods are effective in the acquisition of some facets of handicraft skills such as; interpreting sketches and verbal descriptions as well as ability to brand and package craft finished products. However, there are some facets of craft skills in developing patterns and specifications were not acquired during the training through SGLM methods.

5. Recommendations

i. The study shows that vulnerable youth are trainable; hence the government of Kenya through the Ministry of education science and technology should adopt transformative method of training such as SGLM to empower the vulnerable youth who are not catered for by the institutionalized training.
ii. SGLM techniques should be emphasized as effective in training practical vocational skills among the youth
iii. Educational research institutions can replicate the study on a larger scale in other parts of the country to shed some light on the importance of transformative methods in skills training programs.

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