



## The Usability of Elementary Arabic Learning Module (EALM) for Ugandan Adults Muallaf (UAM): A Descriptive Evaluation of General, Specific, and Overall Constructs

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## ABSTRACT

The Ugandan adults Muallaf (UAM) faced a problem in learning Arabic for religious purposes. The elementary Arabic learning module (EALM) was developed for UAM using ADDIE procedures to mitigate the said problem. This research evaluated EALM usability for UAM. The purposive sample of UAM (n=44) and a random sample of teachers (n=5) were used. UAM student and teacher questionnaires were also used. The descriptive statistics using SPSS 20 was employed to describe EALM usability data. The finding yielded positively high teachers' and students' ratings in favor of all EALM usability evaluation constructs. The researchers strongly recommend EALM for UAM.

**Keywords:** ADDIE evaluation, content, elementary Arabic, learning module, Muallaf, pedagogy, usability, Ugandan adults.

## INTRODUCTION

An Ugandan adults Muallaf (UAM) Arabic needs' analysis survey was carried out separately at phase one prior to the commencement of EALM design process. The major aim of UAM Arabic needs' analysis survey at phase one was to diagnose UAM Arabic learning needs in order to identify the major aspects pertinent to the proposed EALM development for UAM (Aldoobie, 2015; Elsaid Mohammed & Nur, 2018). The submitted findings imply that EALM development should address the following aspects: EALM target population characteristics, instructional standards, quality assurance (Ahmad Zabidi, Woo, Rajesh Kumar, Fadzil, & Syed Husain, 2017; Amoako & Asamoah-Gyimah, 2020; Tsai & Jao, 2020; Karam, Fares & Al-Majeed, 2021).

Based on the findings of EALM needs analysis yielded by EALM first phase survey, it was recommended for EALM designers to proceed with the rest of conventional ADDIE stages for EALM development including: design, develop, implementation, and evaluation (Yeh, & Tseng, 2019). Hence, the researchers recommended the development of "Elementary Arabic learning module (EALM) for UAM using elementary Arabic grammar, morphology and common Arabic vocabularies (CAV)". Various scholars such as Koderi & Syahrial (2018), Yusof,

Baharudin, Hamzah and Abdul Malek (2021) also consider instructional and curricular quality assurance for elementary Arabic language-arts for beginners. EALM designers asserted that the absence of UAM standardized Arabic syllabus with explicitly articulated aims and learning outcomes was a clear obstacle hindering their Arabic proficiency. Hence, it was recommendable to revisit EALM Arabic content and instructional usability so that the UAM standardized syllabus with explicitly articulated aims and learning outcomes can be manifested.

Thus, a team of researchers carried out a survey to investigate EALM usability so that EALM weaknesses relating to language, content, curriculum, and instructions could be rectified before any further action of EALM curriculum and instructions is declared. Hence, the current article is reporting the findings of perceived EALM quality from both; UAM viewpoints and UAM Arabic teachers points of observation. Thus, this article is reporting the findings of EALM quality evaluation survey conducted during week 4 of EALM implementation by both UAM students and their Arabic teachers.

## **DESCRIPTION OF EALM**

EALM was developed for UAM using samples of lessons, elementary Arabic grammar (EAG), Arabic derivative morphology (ADM), and common Arabic vocabularies (CAV) because UAM needed a favorable Arabic command that could enable them to grasp basis Islamic religious provisions. This confirms the notion of a teacher as researcher in the context of language teaching (Saeed, 2011). Various researchers also investigated using Arabic language as a mean to speed up their basic Islamic education (Farghal, 2008; Al-haq & Al-Masaeid, 2009; Pamessangi, 2022). The main goal of EALM is to simplify the elementary Arabic learning for UAM using EAG, ADM and CAV.

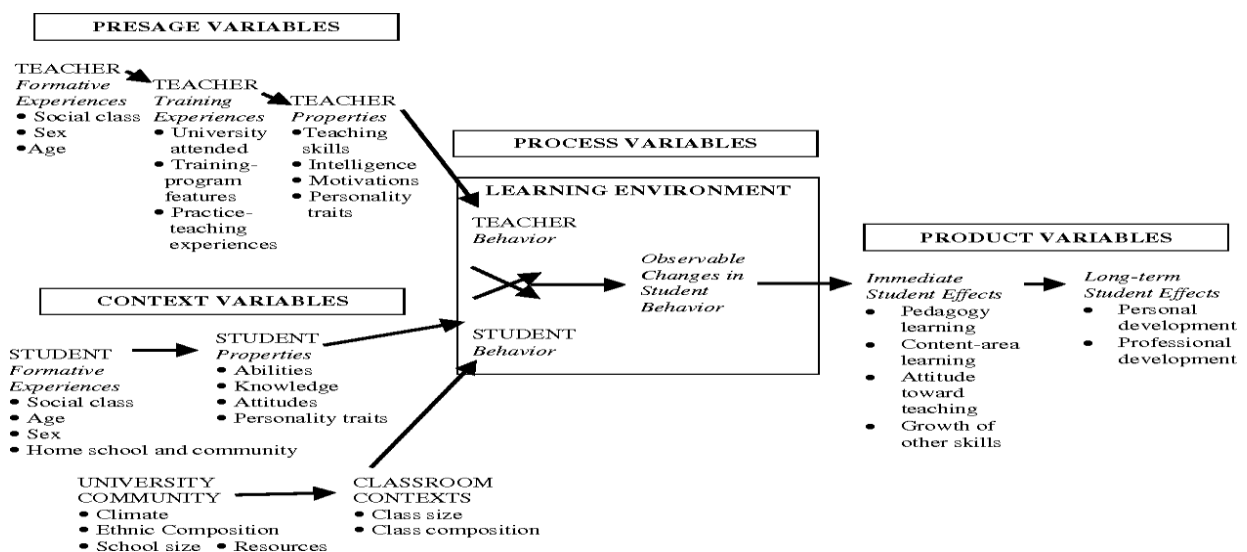
EALM contents were presented in the manner of naqli and aqli integration; both naqli and aqli are common Islamic-Arabic terminologies. While Aqli refers to the conventional knowledge, Naqli refers to the divine knowledge. ADDIE module building procedures were used to build EALM. They initially began with analysis of UAM needs for Arabic learning, then designing EALM Arabic grammar and morphology involving some guides from Murtadha Bakir (2006) and Cortazzi and Nahla Nola Bacha, Martin Cortazzi, and Fouad Nakhle (2002). Further EALM design phase involved designing CAV, and instructional strategies involving expert information from Altakhaineh, Zibin and Alkhatib (2020), Jaradat (2022), Kiynova, Kurmankulova, Zheniskyzy, and Murzabayeva (2021). Further ADDIE procedures included EALM structural development. The final two phases of ADDIE adaptation for EALM procedures were the implementation and evaluation upon which EALM usability is reported by the current article.

## **EALM DESIGN**

EALM design for UAM using EAG, ADM and CAV was done after the first phase of UAM needs' analysis. EALM design was the second integral stage of the principal research grant entitled the development of EALM for UAM; samples of lessons using EAG, ADM and CAV. EALM design phase focused on two major components namely EALM linguistic content and EALM technical design. EALM format design was part of EALM technical design, it involved the design of the face-to-face EALM and the virtual EALM for interacting with UAM audience online via Global Open Access Learning System GOALS (Hess & Greer, 2016; Almelhi, 2021; Kiynova, Kurmankulova, Zheniskyzy, & Murzabayeva, 2021).

## EALM IMPLEMENTATION AND EVALUATION

EALM implementation and evaluation are the essence behind the current research. EALM implementation and evaluation mark the two final phases of ADDIE model adopted to accomplish EALM building project. ADDIE is an acronym that summarises the 5 phases of standard module building including: Analyze, Design, Develop, Implement, and Evaluate (Hidayat & Nizar, 2021). Hence, the implementation and evaluation phases mark the two final milestones of the EALM research project. With reference to the final two non-experimental ADDIE phases and to the explicit learning model by Dunkin and Biddle (1974) presented by the Figure1, the current article intended to report the usability of the newly developed EALM for UAM.



**Figure 1.** The model for the study of classroom teaching (Dunkin & Biddle, 1974. p.38).

The Dunkin and Biddle's (1974) learning model is categorized with the explicit learning-based theories; they classify the learning variables in sequence of: presage, contexts, process, and products. They believed in a linear progress from teachers and learners' contexts, through teaching activities to learning outcomes (Schmeck, 1988; Marton & Saljo, 1976). Thus, Dunkin and Biddle (1974) consider students, teaching methods, learning approaches and learning outcomes as interactive and correlated

variables that affect each other. Hence, the UAM students and teachers' involvement in EALM general pedagogical, specific content, and overall EALM usability evaluation were in view of Dunkin and Biddle (1974) theoretical characteristics relevant for EALM evaluation.

## OBJECTIVES

This research was conducted to evaluate the usability of EALM for UAM. Thus, the main purpose of this research project was to carry out a thorough EALM usability evaluation so as to determine the level of EALM general pedagogical usability, EALM specific content usability, an overall EALM usability level in terms of flexibility, clarity, and suitability for UAM.

## LITERATURE REVIEW

Several research on academic modules usability agree on ADDIE needs' analyses for developing skills' and professional module developments, religious education, computer assisted learning instructions, and training programs. Elsaid and Nur (2018) conducted needs analysis in English for academic purposes for university teaching assistants. Although their research was about English, it was relevant in terms of characteristics' selection and tools developments. Some teacher training programs integrate technology into foreign language lessons but teachers may not achieve sustainable reflection on the usability of technology in their actual practice (Yeh & Tseng, 2019). Such a phenomenon may call for technology UAM teachers' professional trading pertinent to EALM delivery and evaluation (Hidayat & Nizar, 2021; Abdullah, 2021; Guevarra, Ongkeko, Antonio, Bermudez, & Fernandez Marcelo, 2021). Guevarra et al. (2021) confirm the necessity of scientific evaluation of academic modules and models' quality assurance before any recommendation made to include the modules in academic syllabi.

Various pedagogical implications are adaptable with ADDIE design to build, implement, and evaluate different academic modules. In agreement with Yeh and Tseng (2019) about the necessity of computer assisted learning skills, Hess and Greer (2016) implemented ADDIE model to integrate high-impact practices into an online information literacy course. The assertions of Hess and Greer (2016) agree with Almelhi (2021), Kiynova, Kurmankulova, Zheniskyzy, & Murzabayeva (2021) and Zhang and Zhang (2021) on the grounds of using ADDIE model for various pedagogical purposes. They concluded that ADDIE model is useful for various instructional design including online and face-to-face. This finding was also confirmed by Hamdi and Abu Qudais (2018). Psychologically, Hakim, Zainiyati, Hana, and Alimina (2021) asserted that the application of ADDIE design for learning model building increase students' learning motivation.

This literature significantly guides the researchers to put the entire EALM building research and evaluation procedures in the proper dimensions including the

current phase of implementation, usability and quality evaluation before any final recommendation to use EALM is asserted. Since EALM researchers gathered favorable information about academic modules' quality assurance, they obtained an acceptable platform to conduct EALM quality evaluation survey after four weeks of EALM implementation by both UAM and UAM Arabic teachers. EALM implementation and evaluation research manifested the final ADDIE phase adapted for EALM building research series.

## METHODOLOGY

Basically, the adapted ADDIE model suggests undergoing the typical 5 phase procedure to build an effective academic learning module. The ADDIE adaptable 5 phases include analysis, design, development, implementation, and evaluation. Thus, ADDIE 5 phases were reviewed and adapted to suit in EALM building at all phases including the currently reported evaluation phase. The adaptation included UAM Arabic needs' analysis as well as designing EALM EAG, ADM and CAV content based on the findings of the analysis phase. The adaptation of ADDIE third phase dictated the conditions of developing EALM including using EAG, ADM and CAV based on the preceded two phases' outcomes.

The current research procedures and findings were based upon the final two phases of implementation and evaluation research. EALM pilot implementation and evaluation used a purposive sample of UAM students ( $n=44$ ), a random sample of UAM teachers ( $n=5$ ). The ADDIE evaluation mechanisms were applied along with two valid and reliable EALM evaluation questionnaires for both the students and the teachers. The questionnaires' reliability test yielded an overall coefficient of 0.944 for students' questionnaire and 0.929 for the teachers' questionnaire.

The descriptive statistics using SPSS20 was employed to describes EALM usability data collected from both; teachers and students characteristics. The descriptive statistics is a simple technique that describe and summarize the data in a meaningful way. The researchers chose the groups of EALM users in question and record their data rated on EALM usability evaluation using the mean summary statistics to describe their perception characteristics. There was no uncertainty involved in the analyses since the researchers were just describing EALM users' perception. The researchers were not aiming to infer EALM users' characteristics about a larger Ugandan population. Thus, there was no any hypothetical inferences expected to yield from the descriptive statistics employed in this research; no correlational prediction, experimental, nor control inferences were expected out such descriptive analyses. The researchers just took the research data points and reduced them into meaningful summaries of mean values without graphs because the descriptive statistics used in this research were simple and easy to comprehend.



## EALM IMPLEMENTATION AND USABILITY ASSESSMENT

The pilot implementation of EALM was conducted for 4 weeks by both UAM students and UAM Arabic teachers. The purposive UAM sample size ( $n=44$ ) as well as the random sample of UAM teachers ( $n=5$ ) were used for data collection. Both the students' and teachers' evaluation questionnaires were used. The evaluation questionnaires were distributed via online googles forms to both UAM students and the selected UAM Arabic teachers during the 3rd week of EALM implementation. The completed sets of questionnaires were also collected via online googles forms during the 4th week. On one hand, the two major aims of students' questionnaire at this evaluation level were to answer questions about levels of EALM usability pertain the usability of specific content and overall EALM usability. On another hand, the three major aims of teachers' questionnaire were to rate the usability of EALM pedagogical content, usability specific EALM content, and overall EALM usability in terms of flexibility, clarity, and suitability for UAM.

### EALM USABILITY ASSESSMENT CONSTRUCTS

There were two different sets of EALM evaluation questionnaires - one for learners and another one for teachers. A set of 40 questionnaires were distributed to learners and 5 sets of questionnaires were distributed to teachers. The survey forms were distributed to learners and teachers during the 3rd week of EALM implementation, the filled sets of questionnaires were collected in the 4th week of Implementation. At this evaluation stage the researchers wanted to answer the following questions:

1. What are the types of error found in the EALM?
2. What are the strengths and weaknesses of the EALM?
3. What are the suggestions for improvement of the EALM?
4. What is the overall EALM usability in terms of flexibility, clarity, and suitability for UAM?

The two constructs for students' questionnaire were EALM specific content usability and EALM overall usability, while the three constructs for teachers' questionnaire were EALM general pedagogical usability, EALM specific content usability, and overall EALM usability in terms of flexibility, clarity, and suitability for UAM. Therefore the students' questionnaire on one hand involved only two 2 sections of EALM evaluation construct; (i) the specific content usability construct with 8 factors; and (ii) the 3 factors construct of overall EALM usability in terms of flexibility, clarity, and suitability for UAM.

On another hand, the teachers' questionnaire involved three 3 constructs of EALM usability evaluation: (i) EALM general pedagogical usability construct with 21 factors; (ii) the specific content usability construct with 8 factors, and (iii) the 3 factors construct of overall EALM usability in terms of flexibility, clarity, and suitability for UAM. The following Table 1 describes the teacher' EALM evaluation questionnaire and Table 2 describes the students' EALM evaluation questionnaire.

## TEACHERS' USABILITY ASSESSMENT QUESTIONNAIRE

It is vital to note in the following teachers' EALM usability evaluation questionnaire that the sections C, D, and E for the teachers' EALM usability evaluation contain three constructs of EALM usability evaluation: the EALM general pedagogical usability with 21 factors; EALM specific content usability with 8 factors; and overall EALM usability with 3 factors. The teachers' EALM usability evaluation questionnaire is illustrated by the following Table 1.

**Table 1.** Teachers' EALM Usability Evaluation Questionnaire

The evaluation of elementary Arabic learning module (EALM) for Ugandan adults <i>Muallaf</i> (UAM) (the teachers' copy)		
A: Investigated Module Information	"The elementary Arabic learning module EALM for UAM (Samples Of Lessons Using Arabic Grammar, Morphology and Common Arabic Vocabularies (CAV)".	No of Factors
B: Rate Scales instructions	This section uses a 5-point Likert scale; ranging from (1 = strongly disagree to 5 = strongly agree)	
Teachers' EALM general pedagogical usability evaluation		
C: Teachers' rating of EALM general pedagogical usability	1. EALM content is relevant for the subject	21
	2. EALM content coverage is adequate for the subject.	
	3. EALM is useful for UAM in learning the subject.	
	4. The information provided in EALM is correct.	
	5. EALM content is presented in a clear and effective manner.	
	6. EALM is written at a level suitable for UAM understanding.	
	7. The contents of EALM are arranged in systematic and logical order.	
	8. The language used in EALM is easy for UAM to understand.	
	9. Favorable exercises are sufficiently provided for each segment of EALM lesson.	
	10. EALM lessons' content matches the objectives and learning outcomes (CLO)s provided.	
	11. The exercises and learning activities given in EALM are useful.	
	12. EALM is suitable for UAM self-directed learning.	
	13. EALM reading exercises help UAM to improve their Arabic knowledge.	
	14. EALM reading exercises help UAM to improve their Islamic knowledge.	
	15. EALM content integrates ( <i>Naqli &amp; Aqli</i> ) knowledge.	
	16. the general structural design of EALM is attractive.	
	17. the general instructional design of EALM is effective.	
	18. The fonts size 18 (Traditional Arabic) of the printed EALM is appropriate.	
	19. EALM references are useful.	
	20. (EALM) tables and icons are effective in directing the information.	
	21. (EALM) assessment mechanisms match the objectives and learning outcomes (CLO)s provided.	



Teachers' specific EALM content usability evaluation		
D teachers' rating of specific EALM content usability evaluation	1. EALM CAV contents are relevant to UAM Arabic needs and understanding of subject.	8
	2. EALM grammatical contents are relevant to UAM Arabic needs and understanding of subject.	
	3. EALM morphological contents are relevant to UAM Arabic needs and understanding of subject.	
	4. EALM includes key topics in all lessons.	
	5. EALM topics per lesson are appropriately sequenced to facilitate UAM Arabic learning.	
	6. EALM strengthens students understanding of Arabic knowledge and skills relevant to (UAM) needs.	
	7. EALM reading content provoke UAM to read more about similar topics.	
	8. EALM two broad sections are relevant to UAM Arabic literacy levels.	
E teachers' rating of overall EALM usability rating	Teachers' overall EALM usability rating regarding the level flexibility, clarity; and suitability for UAM	3
	1. What is the level of overall EALM usability in terms of (flexibility and easy to use)?	
	2. What is the level of overall EALM usability in terms of Clarity Level?	
	3. What is the level of overall EALM usability in terms of Suitability for UAM?	
F open ended comments and suggestions for errors correction and EALM improvement	Teachers' Open ended Comments and Suggestions for Errors correction and EALM improvement	
	Please provide information about EALM errors that you have found (if any); by providing the following information:	
	(i) EALM Page Number, (ii) Error Paragraph Number and (iii) Brief description of the Error Found.	
	Please provide suggestions for EALM improvement and EALM errors correction (IF ANY).	

Source: Kirembwe et al. (2022)

Section F—open ended section for comments and suggestions for errors correction and EALM improvement (if any)—was added for the teachers only. Section F is not included in the students' EALM usability evaluation questionnaire.

## STUDENTS' USABILITY ASSESSMENT QUESTIONNAIRE

Sections C and D in the following students' EALM usability evaluation questionnaire contain only two 2 constructs of EALM usability evaluation: the specific EALM content usability evaluation with 8 factors and EALM overall usability evaluation with 3 factors of flexibility, clarity, and suitability for UAM. The students' EALM usability evaluation

questionnaire is illustrated in Table 2.

**Table 2.** Students' EALM Usability Evaluation Questionnaire

The evaluation of elementary Arabic learning module (EALM) for Ugandan adults <i>Muallaf</i> (UAM) (the students' copy)		
A: Investigated Module Information.	"The Elementary Arabic Learning Module (EALM) for Ugandan Adults <i>Muallaf</i> (UAM) (Samples of Lessons Using (EAG), (ADM) and (CAV)".	Factors
B: Rate Scales instructions	This section uses a 5-point Likert scale; ranging from (1 = strongly disagree to 5 = strongly agree)	
students' specific EALM content usability evaluation		
C: students' rating of specific (EALM) content usability evaluation	EALM CAV contents are relevant to my Arabic needs and understanding of subject.	
	EALM grammatical contents are relevant to my Arabic needs and understanding of subject.	
	EALM morphological contents are relevant to my Arabic needs and understanding of subject.	
	EALM includes key topics in all Lessons.	
	EALM topics per lesson are appropriately sequenced to facilitate my Arabic learning.	8
	EALM strengthens my understanding of Arabic knowledge and skills.	
D Students' rating of overall EALM usability rating	EALM reading content provokes me to read more about similar topics.	
	EALM two broad sections are relevant to differences in our Arabic literacy levels.	
	Students' overall EALM usability rating regarding the level of flexibility, clarity; and suitability for UAM	
	What is the level of overall EALM usability in terms of (Flexibility and Easy to Use)?	3
	What is the level of overall EALM usability in terms of Clarity Level?	
	What is the level of overall EALM usability in terms of Suitability for UAM?	

Source: Kirembwe et al. (2022)

It is noticeable that the teachers' evaluation Table 1 is smaller than the students' evaluation Table 2 because the teachers' evaluation Table 1 included additional section (C); EALM general pedagogical evaluation, and the teachers' section (F); open ended comments and suggestions for errors correction and EALM improvement which were omitted from the students' evaluation Table 2. The students were not capable of providing advanced Arabic and pedagogic criticism. Although UAM students were adults, they were not experienced enough to detect errors in EALM linguistic and pedagogical contents. Unlike UAM students, the experienced teachers were involved

in EALM pedagogical evaluation and error evaluations because teachers play a vital role in predicting favorable instructional characteristics for students' academic success (Fareh & Saeed, 2011; Renandya, Hu, Christison, & Broady, 2018; Hanady Bani Hani, Rana Alkhamra, Hala Alomari, Aya Aljazi, Yasaman Jalali-Kushki, 2022). Thus, Section F was made open ended requesting UAM teacher participants to comment on errors found on EALM (if any) and provide suggestions on how to fix them.

## DATA ANALYSIS

The descriptive statistics were used to analyze EALM usability evaluation data for all constructs; EALM general pedagogical usability, EALM specific content usability, and the construct of EALM overall usability following the sequence of their respective factors in the questionnaires. The tables from 3 to 10 summarize the findings of teachers' EALM usability evaluation.

## FINDINGS OF TEACHERS' USABILITY ASSESSMENT

This section present findings of teachers' evaluation for EALM general pedagogical usability, EALM specific content usability, and overall constructs due to their respective factors' order in the teachers' questionnaire, holding in the view that the major aim of teachers' questionnaire was to rate three EALM constructs: the general pedagogical, specific content, and overall EALM usability. Thus, the teachers' evaluation Tables from 3 to 7 present the teachers' evaluation summary with 21 EALM general pedagogical usability, EALM specific content usability, and the construct of EALM overall usability. While the two teachers' evaluation Tables 8 and 9 present the teachers' evaluation summary with 8 EALM specific usability factors. Yet, the teachers' evaluation Table 10 present teachers' evaluation summary with only 3 EALM overall usability factors.

### Findings of Teachers' Rating for EALM General Pedagogical Usability

The findings of teachers' evaluation for EALM general pedagogical usability factors; (1 to 21) are presented in the following teachers' rating Tables 3 to 7 due to their respective order in the teachers' questionnaire.

**Table 3.** Findings of Teachers' Rating for EALM General Pedagogical Usability (1 to 5)

		Teachers' general pedagogical rating 1	Teachers' general pedagogical rating 2	Teachers' general pedagogical rating 3	Teachers' general pedagogical rating 4	Teachers' general pedagogical rating 5
N	Valid	5	5	5	5	5
	Missing	0	0	0	0	0
Mean		5.0000	4.8000	5.0000	5.0000	5.0000

Source: Kirembwe et al. (2022).

Table 3 describes the finding of teachers' general pedagogical rating of EALM content usability relating to EALM relevance, coverage, usefulness, accuracy, and usability. These findings show that UAM teachers agree that EALM is excellent at the above general pedagogical usability factors of 1 to 5 (Table 3).

**Table 4.** Findings of Teachers' Rating for EALM General pedagogical Usability (6 to 10)

		Teachers' general pedagogical rating 6	Teachers' general pedagogical rating 7	Teachers' general pedagogical rating 8	Teachers' general pedagogical rating 9	Teachers' general pedagogical rating 10
N	Valid	5	5	5	5	5
	Missing	0	0	0	0	0
Mean		5.0000	5.0000	5.0000	4.8000	5.0000

Table 4 describes the finding of teachers' general pedagogical rating of EALM usability relating to suitability for UAM understanding, systematic and logical, easy language, sufficiently exercises, and compatibility of the content with objectives and course learning outcomes. These findings show that UAM teachers strongly agree that EALM is excellent at the above general pedagogical usability factors of 6 to 10 (Table 4).

**Table 5.** Findings of Teachers' Rating for EALM General pedagogical Usability (11 to 15)

		Teachers' general pedagogical rating 11	Teachers' general pedagogical rating 12	Teachers' general pedagogical rating 13	Teachers' general pedagogical rating 14	Teachers' general pedagogical rating 15
N	Valid	5	5	5	5	5
	Missing	0	0	0	0	0
Mean		5.0000	4.8000	5.0000	5.0000	5.0000

Source: Kirembwe et al. (2022).

Table 5 describes the finding of teachers' general pedagogical rating of EALM usability regarding the usefulness of exercises and learning activities, suitability for self-directed learning, usability of reading exercises on Arabic knowledge Islamic knowledge enhancement, and integration of Naqli and Aqli knowledge. These findings show that UAM teachers strongly agree that EALM is excellent at the above general pedagogical usability factors of 11 to 15 (Table 5).

**Table 6.** Findings of Teachers' Rating for EALM)General pedagogical Usability (16 to 20)

		Teachers' general pedagogical rating 16	Teachers' general pedagogical rating 17	Teachers' general pedagogical rating 18	Teachers' general pedagogical rating 19	Teachers' general pedagogical rating 20
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N	Valid	5	5	5	5	5
	Missing	0	0	0	0	0
Mean		5.0000	5.0000	5.0000	4.8000	5.0000

Source: Kirembwe et al. (2022).

Table 6 describes the finding of teachers' general pedagogical rating of EALM usability regarding the Attractiveness of structural design, usability of instructional design, appropriateness of the fonts size 18 (Traditional Arabic) of the printed version, Usefulness of references and usability of tables and icons in directing the information. These findings show that UAM teachers strongly agree that EALM is excellent at the above general pedagogical usability factors of 16 to 20 (Table 6).

**Table 7.** Findings of Teachers' Rating for EALM General pedagogical Factor (21)

		Teachers' general pedagogical rating 21
N	Valid	5
	Missing	0
Mean		5.0000

Table 7 describes the finding of teachers' general pedagogical evaluation of EALM usability regarding the compatibility of assessments with EALM objectives and learning outcomes (CLO)s. These findings show that UAM teachers strongly agree that EALM is excellent at the above general pedagogical factor (21) (Table 7).

### Findings of Teachers' Rating for EALM Specific Usability

The findings of teachers' rating for EALM specific usability; (1 to 8) are presented in the following two tables (8 & 9) due to their respective order in the teachers' questionnaire.

**Table 8.** Findings of Teachers' Rating for EALM Specific Usability (1 to 4)

		Teachers' specific rating 1	Teachers' specific rating 2	Teachers' specific rating 3	Teachers' specific rating 4
N	Valid	5	5	5	5
	Missing	0	0	0	0
Mean		4.8000	4.8000	4.8000	5.0000

Source: Kirembwe et al. (2022).

Table 8 describes the finding of teachers' specific rating of EALM quality regarding the relevancy of CAV contents, grammatical contents, morphological contents, and inclusion of key topics in all lessons. These findings show that UAM teachers strongly agree that EALM is excellent at the above specific usability factors of 1 to 4 (Table 8). These findings are also supported by Muteb Alqarni (2020) and Jaradat (2022).

**Table 9.** Findings of teachers' rating for EALM specific usability (5 to 8)

		Teachers' specific rating 5	Teachers' specific rating 6	Teachers' specific rating 7	Teachers' specific rating 8
N	Valid	5	5	5	5
	Missing	0	0	0	0
Mean		5.0000	5.0000	5.0000	4.8000

Source: Kirembwe et al. (2022).

Table 9 describes the finding of teachers' specific rating of EALM usability regarding the appropriateness of topics' sequency per lesson for facilitating Arabic learning, strengthening students understanding of Arabic knowledge and skills, provoke of reading content to read more about similar topics, relevancy of two EALM broad sections to UAM Arabic literacy levels. These findings show that UAM teachers strongly agree that EALM is excellent at the above specific usability factors of 5 to 8 (Table 9).

### Findings of Teachers' Rating for EALM Overall Usability

The following section provides findings of teachers' rating of EALM overall usability regarding flexibility, clarity, and suitability for UAM. The findings of teachers' rating for EALM overall usability of 1 to 3 are presented in Table 10 due to their respective order in the teachers' questionnaire.

**Table 10.** Teachers' Overall EALM Usability Rating Factors (1 to 3)

		Teachers' overall rating 1	Teachers' overall rating 2	Teachers' overall rating 3
N	Valid	5	5	5
	Missing	0	0	0
Mean		4.6000	5.0000	5.0000

Source: Kirembwe et al. (2022).

Table 10 describes the finding of teachers' overall rating of EALM usability regarding the Level of Flexibility, Clarity and Suitability for UAM. These findings show that UAM teachers strongly agree that EALM is excellent at the above overall usability factors (1 to 3) described in Table 10 above.

### FINDINGS OF STUDENTS' USABILITY ASSESSMENT

The following section presents the findings of students' evaluation for EALM specific and overall constructs due to the sequence of their respective factors in the students' questionnaire, holding in mind that the major aim of students' questionnaire was to rate only two EALM contracts; the specific and overall EALM usability. Just like in the teachers' questionnaire, the two students' rating Tables 11 and 12 present the



students' rating summary of 8 EALM specific usability factors. Yet, the students' rating (Table 13) presents the students' rating summary of 3 EALM overall usability factors.

### The Findings of Students' Rating for EALM Specific Usability

The findings of students' rating for EALM specific usability (1 to 8) are presented in the following two students' rating tables (11 & 12) due to their respective order in the students' questionnaire.

**Table 11.** Findings of Students Rating for EALM Specific Usability (1 to 5)

		students' specific rating 1	students' specific rating 2	students' specific rating 3	students' specific rating 4	students' specific rating 5
N	Valid	44	44	44	44	44
	Missing	0	0	0	0	0
Mean		4.8182	4.8409	4.7727	4.7955	4.7045

Source: Kirembwe et al. (2022).

Table 11 describes the finding of students' specific rating of EALM usability regarding the relevancy of CAV contents, relevancy of the grammatical contents, relevancy of the morphological contents, inclusion of the key topics in all lessons, and appropriateness of topics' sequency per lesson which facilitate faster Arabic learning. These findings show that UAM strongly agree that EALM is very good at the above specific usability factors (1 to 5) presented in Table 11.

**Table 12.** Findings of Students Rating for (EALM) Specific Usability (6 to 8)

		students' specific rating 6	students' specific rating 7	students' specific rating 8
N	Valid	44	44	44
	Missing	0	0	0
Mean		4.7955	4.8182	4.7500

Source: Kirembwe et al. (2022).

Table 12 describes the finding of students' specific rating of EALM usability regarding strengthening UAM understanding of Arabic knowledge and skills; provoking reading content to read more about similar topics, and relevancy of the two EALM broad sections to differences in UAM Arabic literacy levels. These findings show that UAM strongly agree that EALM is very good at the above specific usability factors of 6 to 8 (Table 12).

### Findings of Students' Rating for EALM Overall Usability

The findings of students' rating for EALM overall usability (1 to 3) are presented in the following students' rating Table 13 due to their respective order in the students' questionnaire.

**Table 13.** Findings of Students' Rating for (EALM) Overall Usability (1 to 3)

		students' overall rating 1	students' overall rating 2	students' overall rating 3
N	Valid	44	44	44
	Missing	0	0	0
Mean		4.7500	4.8636	4.9091

Source: Kirembwe et al. (2022).

Table 13 describes the finding of students' overall rating of EALM usability regarding the level of flexibility, clarity and suitability for UAM. These findings show that UAM students strongly agree that EALM is very good at the above overall usability factors of 1 to 3 (Table 13).

### REMARKS ON TEACHERS' RATINGS

The previous Tables 3 to 10 manifest that all teachers' ratings for all EALM usability factors were very high. Such a very high magnitudes of teachers' rating facilitate a strong position for the researcher to conclude that EALM is effective in acquisition of elementary Arabic language for UAM using the linguistic content of EAG, ADM, and CAV. The teachers' high ratings magnitudes for all EALM factors symbolize a very strong evidence for EALM high usability which is scientific evidence for the researchers' recommendation to use EALM for UAM.

### REMARKS ON STUDENTS' RATINGS

The previous Tables 11 to 13 manifest that all students' ratings for all EALM usability factors were above the mean average which facilitated a reasonable foundation for the researcher to assert that EALM is effective Arabic learning module for UAM. The students' high ratings for all EALM usability factors are strong evidence that reflect EALM high usability which strengthens the researchers' position to recommend the use of EALM for UAM and similar populations.

### GENERAL REMARKS ON THE FINDINGS

Tables 3 to 10 manifest that UAM teachers' ratings for all EALM usability factors were very high. The teachers' high rate implies that UAM teachers strongly agree that EALM usability is excellent. The similar high mean average is manifested in UAM rating of

Tables 11 to 13. The UAM ratings of EALM usability were above the average for all the selected factors. Hence, it clear that both UAM students as well as UAM teachers strongly agree that EALM usability is excellent. Thus, the researchers can reasonably assert that EALM is recommendable for UAM. However, we should not rule out the possibility that adults' literacy factors might have influenced UAM specific perception and rated EALM content in unusual way that might cause the face of finding to look the way they are (Omar Atari, 2010).

Another concern about the face of these finding is the UAM anxiety, which might have influenced their specific and overall decisions for or against EALM that they had used for the 4 implementation weeks (Al-Shuaibi, Hamdan-Mansour, & Azzeghaiby, 2014). Such a phenomena may warrant to conduct an experimental research with strong design, that can reasonably control the possible extraneous variables, to investigate the effect of EALM on achievements of elementary Arabic skills for UAM. However, the researchers' position to recommend EALM for UAM remains strong and evidenced by the high magnitudes of mean average rates from both the teachers and the students.

## CONCLUSION

This research was conducted to evaluate EALM for UAM. The EALM implementation and rating was conducted in by the current research and marked the final phase 4 and 5 for EALM building research series. EALM was built using a sequence of lessons with EAG, ADM, CAV and common Arabic language arts.

EALM designers asserted that the absence of UAM standardized Arabic syllabus with clearly articulated aims and learning outcomes was hindering their Arabic proficiency. Hence, it was recommendable to revisit EALM Arabic content and instructional usability so that the UAM standardized syllabus with explicitly articulated aims and learning outcomes can be manifested.

The descriptive statistics, judgmental purposive sample of UAM students ( $n=44$ ), and a random UAM teachers' sample ( $n=5$ ) were selected for EALM evaluation data collection. The ADDIE evaluation mechanisms were applied along with two valid and reliable EALM evaluation questionnaires for both the students and the teachers. The major aims of students' evaluation questionnaire were to rate the level of specific and overall EALM usability. Whereas the major aims of teachers' evaluation questionnaire were to rate the level of general pedagogical usability, specific content usability, and EALM overall usability.

The finding yielded a highly positive teachers' and students' ratings in favor of all EALM usability pertaining to all EALM constructs, including EALM general pedagogical usability construct, EALM specific content usability construct, and EALM overall usability construct of flexibility, clarity, and suitability for UAM. Thus, the researchers asserted that EALM is effective for UAM and therefore they strongly recommend UAM to use EALM for their elementary Arabic acquisition, basic Arabic communication, and Islamic provisions' assimilation purposes.

## RECOMMENDATIONS

Due to the finding of this research, it is strongly recommendable for UAM to use EALM for elementary Arabic acquisition, basic Arabic communication, and Islamic provisions' assimilation purposes. Since the current research was a pre-experimental case study using a judgmental purposive sample, it is recommendable for the future related research to use more empirical experiments engaging the relatively larger sample size the find of which would be significantly generalizable to a wider UAM target population.

The findings at hand also imply that EAG, ADM, CAV, and common Arabic language arts are effective linguistic component applicable in EALM for UAM and similar population (Alghazo, Al Salem, & Alrashdan, 2021). Hence, more scientific research is warranted to investigate factors influencing the above Arabic linguistic variables in favor of elementary Arabic acquisition for the similar population.

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