The evalaution of the EBA Portal in terms of learning objects

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Abstract

The Ministry of Education has performed projects named " Connecting all schools to the Internet" and " Setting an Information Technologies Classroom for each school" regarding transition of constructivist education curriculum. Within the scope of a number of Project activities named "The Movement of Increasing Opportunities, Improving the Technology" known for its acronym "FATİH", the ministry have been conducting the operations of using smart boards in classrooms instead of using classical blackboards and delivering the tablet PCs to the students instead of using coursebooks nowadays. In the context level of these operations which are mainly on hardware, the setting of context portal named EBA takes place.In this operation the necessity for the identification of computer aided educational materials broadcasting via EBA portal as the learning objects and associated with the curriculum has been presented. Answers for the questions of whether the educational materials can be associated with the acquisitions taking place in the curriculum during or after the loading process, and whether the metadata of a learning object can be identified are sought in this study.

Keywords: Learning object, education portal, material developing, curriculum.

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1. Introduction

The Ministry of Education (MEB) has performed projects named " Connecting all schols to the Internet" and " Setting an Information Technologies Classroom for each school" regarding transition of constructivist education curriculum. The curriculum after taken its name as Teaching Programme, 4+4+4 Educational System has been started to be applied since 2012. After that, within the scope of a number of Project activities named "The Movement of Increasing Opportunities, Improving the Technology" known for its acronym "FATIH" ,the operations of using smart boards in classrooms instead of using classical blackboards and delivering the tablet PCs to the students instead of using coursebooks have started. . In the content level of these operations, the setting of an content portal named EBA takes place. Identifying the educational content and the learning materials as learning objects that can be associated with teaching programmes will be resulted in taking the maximum advantage by the learners. The issue that the educational content and learning material taking place in EBA Portal can be associated with the curriculum and whether they are identified as the learning objects is significantly important for the future of the based system.

In our country the curriculum is carried out by the approval of the Head of Board of Education and Discipline (TTKB) subject to the MEB. The curriculum with its constructivist education understanding aims at the forming a relational model of the information in mind of the student and the association it with the student's life as possible.

An information model is the resolving the set of knowledge into parts properly, labelled with various scopes and forming the relational whole itself again. Understanding of a subject is the result of perceiving the relations (Caine & Caine, 2002).

Apart from our country standardization unions such as Dublin Core Metadata Initiative (DCMI), IEEE Learning Technology Standards Committee (LTSC), Instructional Management System (IMS) Global learning Consortium and Alliance of Remote Instructional authoring and Distribution Networks for Europe (ARIADNE) are carrying out some improving studies on the generally accepted Learning Object Metadata (LOM) for the classification of the teaching context. Also, the MEB of several countries are closely interested in with this subject and they are carrying out projects on using the learning resources more efficiently and easily (Kuo, Yan & Ho, 2005; Okamoto, Shinohara, Okui, Terashima & Hashimoto, 2001; Xiang, Shi & Guo, 2003). In this respect, the curriculum has the obligation of being an information model both in terms of a relational model aiming at forming in the students' minds and certified documents by TTKB (Kilic, 2006).

A learning object is a deprived example of a LOM. According to the IEEE LTSC 1484.12.1-2002 learning object is identified as an educationally objective asset that can be digital or undigital (IEEE, 2002).

The LOM that is standardized in the 1484.12.1-2002 developed by IEEE LTSC consists of 9 categories which have more than 60 characteristics (Muhi, Medve, Dulai & Tarnay, 2004). The main idea behind the learning objects is that the learning objects are small reusable components in different instructional materials (Frosh-Wilke, 2004). The biggest problem for a learning object is defining the size of the object (Muhi, Medve, Dulai & Tarnay, 2004).

This problem stems from the point of view for management of the content. The smaller units that a content is resolved, the more details it has but the more difficult the complexity of management and content has become. On the other hand, bigger units provide managerial conveniences although they ignore the details (Kilic, 2006).

Just as mind maps are set by neuron cells in human brain, the learning objects used in computer aided education in accordance with the form of object based programming, it is considered that each learning object must be equivalent to an acquisition and set among the leaning objects will give the most efficient result (Kilic, 2007).

EBA is working as a portal that is prepared by the MEB and consists of texts and multimedia course materials for students, teachers and parents. Also, EBA Portal has some sub portals that are only for teachers and open for public and content development instruments.

Via EBA Portal, teachers can broadcast that their videos, records, visual materials, e-documents and e-magazines. EBA Portal designed by The Headquarter of Innovation and Education Technologies aiming at using efficient materials by information technologies in the education process, is a social platform that you can find proper, reliable and tested appropriate materials for each class grade. Designed for principally teachers and students and all the partners of education EBA is an educational platform that (MEB, 2012);

- Presents different, abundant and educative contexts,
- Provides the improvement of information technologies using in education,
- Answers your needs related with the content,
- Exchanges information by its social web form,
- Contributes to the lessons with its growing archive,
- Reconstructs the information while learning and producing information from itself,
- Includes all the students that have different learning styles. (verbal, visual, numerical, social, individual, auditory)
- Enhances the teachers for directing the education by bringing them together at a common point.
- Uses technology not as an objective but an instrument.

In this study, contents and materials which can be loaded on EBA portal by the teachers or developed by EBA portal are evaluated according to the scope of loading and developing forms and broadcast formats and whether the content and material can be associated with the curriculum and whether they can be identified as learning objects are examined.

2. Method

2.1. The Form of Curriculum

As a curriculum example "Primary School Maths Lesson Grades 2., 3. ve 4. Curriculum" is taken from TTKB dated as 2015, 28 July and accepted with decree no:55 and updated in 2016, 7 March and decree no: 13 (MEB, 2015).
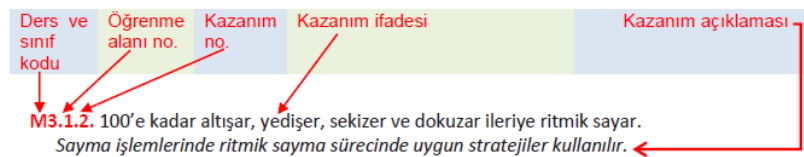

Figure 1. The form of Curriculum

The curriculum is consolidated and which acquisitions will be given in each lessonare stated in every unit based on learning space. The form of acquisitions are illustrated in figure 1. (MEB, 2015).

Figure 2. Primary school grade 1. accquisition examples

As it is seen above, for primary school grade 1 there is Natural Numbers sub learning space under the Numbers and Operations learning space. In this sub learning space there are 9 different acqusitions (MEB, 2015).

Figure 3. The relations of acqusitions belong to the same sub learning space in different class grades

As it is seen above, in the curriculum the relations of acqusitions belong to the same sub learning space in different class grades can be seen.

1. SINIF					
Ünite	Konular	Kazanımlar	Kazanım Sayısı	Süre	
				Ders Saati	Yüzde (%)
1	Uzamsal İlişkiler	(M1.2.4 -M1.2.5)	2	5	3
	Doğal Sayılar	(M1.1.1-M1.1.3)	3	18	10
2	Doğal Sayılar	(M1.1.4-M1.1.6)	3	18	10
	Doğal Sayılar	(M1.1.8-M1.1.9)	2	7	4
	Zaman Ölçme	(M1.3.7)	1	6	3
3	Doğal Sayılarla Toplama İşlemi	(M1.1.10-M1.1.11)	2	14	8
	Doğal Sayılarla Çıkarma İşlemi	(M1.1.7, M1.1.17-M1.1.18)	3	16	9

Figure 4. The relations of acqusitions belong to the different sub learning spaces in same class grade.

As it is seen above, acquisitions M1.1.1-M1.1.9 put out under 4 different units.

If we consider all data together, according to the sample curriculum a lesson consists of units. There can be different learning spaces under the units. Each learning space consists of sub learning spaces and the acquisitions related to them. In this term the biggest unit of a curriculum is

considered as the lesson and the smallest one is as the acquisition. In that case, it is proper to think that the smallest unit which an educational activity can aim at is an acquisition. It can be both a concrete activity for the class or a computer aided education material in this range of study.

2.2. The Form of Learning Objects

The categories developed by IEEE LTSC related to LOM and intended uses are given in Chart-1.

Table 1. Categories of LOM

General	General descriptive information about Learning Object
Life Cycle	Information of version of Learning Object
Meta-Metadata	Information about Learning Object itself
Technical	Information of Learning Object's technique requirements and characteristics.
Educational	Information about Learning Object's educational characteristics
Rights	Information about the right and conditions of the usage of Learning Object
Relation	Relation information between Learning Object and the other learning objects
Annotation	Information about the usage of Learning Object
Classification	The place of the Learning Object in a special classification system

Through the description of an acquisition with a learning object in the curriculum, it is possible to get a set of learning objects in the same form and relational model with the curriculum. While evaluating the content and the materials taking place in EBA Portal, whether this relational form can be set or not is taken into account. Because of that, Educational, Relation and Classification categories as the minimum requirements have been considered while evaluating EBA Portal content and educational materials in terms of LOM.

2.3. The Form of EBA Content and Materials

When we look at the main menu of EBA Portal, options as "EBA lesson, e-magazine, e-book, video, audio, visual, e-document, competition, production of content, EBA file and e-course" are seen. In this menu, the options "EBA lesson, e-book, competition and e-course "are not convenient for loading content and sharing it with everybody in terms of the users as teacher profiled. Due to this, it is left out of the scope of this study. For the options that are convenient for loading content and the sub options of them, these questions are asked in terms of the curriculum:

PRG 01: Is it possible to choose the grade level while loading a content?
PRG 02: Is it possible to state the grade level for a loaded content?
PRG 03: Is it possible to choose the lesson while loading a content?
PRG 04: Is it possible to state the lesson for a loaded content?
PRG 05: Is it possible to choose the learning space while loading a content?
PRG 06: Is it possible to state the learning space for a loaded content?
PRG 07: Is it possible to choose the sub learning space while loading a content?
PRG 08: Is it possible to state the sub learning space for a loaded content?
PRG 09: Is it possible to choose the acquisition while loading a content?
PRG 10: Is it possible to state the acquisition for a loaded content?
PRG 11: Is it possible to choose the key words while loading a content?
PRG 12: Is it possible to state the key words for a loaded content?

When the forms that are convenient for loading content to EBA Portal and the sub options of them are evaluated in terms of the curriculum, the results in the Chart-2 have been obtained.

For the options that are convenient for loading content to EBA Portal and the sub options of them, these questions are asked in terms of the Learning Object Metadata (LOM):

LOM 01: Is it possible to identify the Educational label for the Education material?
LOM 02: Is it possible to identify the Educational label for a loaded Education material?
LOM 03: Is it possible to identify the Relation label for the Education material?
LOM 04: Is it possible to identify the Relation label for a loaded Education material?
LOM 05: Is it possible to identify the Classification label for the Education material?
LOM 06: Is it possible to identify the Classification label for a loaded Education material?

When the forms that are convenient for loading Education material to EBA Portal and the sub options of them are evaluated in terms of the LOM, the results in the Chart-3 have been obtained.

Table 2. Loading content to EBA in terms of the curriculum

The Category Of Content/ Sub Category			Number of content	Frequency	PRG 01	PRG 02	PRG 03	PRG 04	PRG 05	PRG 06	PRG 07	PRG 08	PRG 09	PRG 10	PRG 11	PRG 12
E-magazine			1.881	1,77											X	X
Video			13.282	12,51											X	X
Audio			5.577	5,25											X	X
Visual			63.831	60,14											X	X
E-Document			12.665	11,93	X										X	X
E-book			2.068	1,95											X	X
Production of content			6.839	6,44												
	System of content management															
		Loading content	121	0,11											X	X
		Learning object	41	0,04	X	X	X	X	X	X	X	X	X	X	X	X
		Production of learning step	152	0,14	X	X	X	X	X	X	X	X	X	X	X	X
		Lesson flows	22	0,02	X	X	X	X	X	X	X	X	X	X	X	X
		Questions	4.743	4,47												
		Exams	1.760	1,66												

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Table 3. Loading Education Material to EBA in terms of LOM

The Category Of Education Material/ Sub Category			Number of content	Frequency	LOM 01	LOM 02	LOM 03	LOM 04	LOM 05	LOM 06
Production of content			6.839	100,00						
	System of content management									
		Loading content	121	1,77	X	X	X	X	X	X
		Learning object	41	0,60	X	X	X	X	X	X
		Production of learning step	152	2,22	X	X	X	X	X	X
		Lesson flows	22	0,32	X	X	X	X	X	X
		Questions	4.743	69,35						
		Exams	1.760	25,73						

- PRG xx: Questions in terms of the curriculum
- LOM xx: Questions in terms of the LOM
- The numbers of the content have been obtained on 2016, 27 April.

3. Conclusions

As it is seen in the Chart-2 , although the contents under the options of EBA Lesson, E-Magazine, Video, Audio, Visual, E-Document, E-Book form a big part of the EBA Portal Content numerically (%93.56) , they are used without associating with grade level and lessons.

Despite the fact that the education materials under the option of the production of content are few numerically (%6.44), they have a relationship with the learning programmes at the level of acquisition and also they can be identified as the learning objects.

The minority of Education material identified as the learning object has drawn attention, the details of the material have been examined and it is seen that 41 learning objects have been formed by 6 different people.

On the other hand, when the learning objects labelled with LOM are evaluated among themselves, it is seen that they are mostly question and exam kind of content.(%95.09) It is seen that the other learning objects and the education material labelled with LOM are rather less. (%4.91)

When the education material labelled with LOM is evaluated together with the whole content in EBA Portal, it is seen that there is only the portion of % 0.32 labelled content in it. On the other hand, there has been an unexpected result that there are only 41 education materials labelled as learning objects with the label of the LOM inside the EBA Portal. (%0.04)

4. Argument

When EBA Portal is evaluated in terms of loadable content with teacher profile, in the identification of the content kinds of E-Magazine, Video, Audio, Visual, E-Document and E-Book only key words are used. It is not possible to name the content as learning material by this labelling method. Therefore, it is more appropriate to evaluate the content that is ordered in EBA Portal as an archive. Not being able to associate with the curriculum and being only able to search by using key words will reduce the availability of this content.

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The minority of the content that is and can be labelled with LOM in an education Portal as EBA has resulted in not being able to be named as an education material for EBA's content. The matter of the content that is only labelled with LOM is associated and can be associable with the curriculum will reduce the availability of this EBA content.

In order to make EBA Portal via the MEB adopted and used by students and teachers more, EBA Portal:

- Must be an archive of education material, a repository of object rather than a content archive.
- Can provide user input via own websites of each school.
- Must motivate the teachers for producing education material labelled with LOM rather than loading various contents.
- Can provide the yearly lesson syllabus prepared by the teachers referenced to the curriculum be prepared electronically in the Portal and it can be associated with the related education materials at the level of acquisition.

The operations of searching content and education material can be done not according to the key words that are determined by the loader, but through an indexing mechanism working in the Portal.

5. Summary

In brief, EBA Portal works as a content archive that is loaded by teachers and categorized into specific parts. But it has to be given more importance and place to the education materials in the portal for speaking of an exact education portal. Also, the own websites of each school have to be used as the user input points in order to make the Portal more attractive.

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