

Satellite Meeting: Serials and Other Continuing Resources Section &
Acquisition and Collection Development

[Open Access: Action Required](#)

Date: 16-17 August 2017

Location: European Solidarity Center (ESC), Gdańsk (Poland)

The Darakht-e Danesh Library: Taking Action for Afghan Educators through an Open Access Repository

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Abstract:

Afghan teachers contend with a daunting lack of resources. The Darakht-e Danesh Library (DDL) is an initiative of Canadian Women for Women of Afghanistan and was created in 2014 to respond to the needs of Afghan teachers for high quality, easily accessible, and openly licensed teaching and learning material in Dari and Pashto (the official languages of Afghanistan). This paper will present the DDL and offer insights to the open access repository movement through the experiences of the recruitment of authors for materials and other volunteers, quality control of contributions, and promotion and marketing of the resource to the target audience: Afghan educators.

Currently, the DDL contains over 2,000 Open Educational Resources (OER), many created expressly for the library, on a wide variety of subjects. Quality control includes reviews by volunteer teaching professionals for educational relevance, subject matter experts for content accuracy, and Pashto and Dari language specialists for quality of translation. Each resource is catalogued using a modified DCMI/LRMI educational metadata schema. All resources in the library are in the public domain or have open terms of use or licenses. Much of the work is done by volunteers, resulting in cost efficiencies that help keep the project sustainable. The DDL recruits volunteers both from within Afghanistan and the Afghan diaspora, using social media, outreach events in Afghanistan, and visiting schools. Promotion of the DDL relies on word of mouth and active outreach, including demos, billboards, printed flyers, and media appearances.

Although the efforts required are substantial, a recent impact study found that the OER in the DDL positively impacted teachers' knowledge and helped them in lesson preparation. However there remains the challenge of raising awareness of the DDL and convincing users to adopt it. The experiences of the DDL offer insights to success of open access repositories.

Keywords: Open Educational Resources, Afghanistan, Open Access, Online Library, Darakht-e Danesh.

Introduction

Afghan teachers contend with a daunting lack of resources. Most schools do not have libraries or science laboratories, many classrooms go without textbooks, and teachers have little material to help them create engaging and effective teaching and learning environments. The Darakht-e Danesh Library (DDL)¹ is an initiative of Canadian Women for Women of Afghanistan (CW4WAfghan) and was launched in 2014 to respond to the needs of Afghan teachers for high quality, easily accessible, and openly licensed teaching and learning material in Dari and Pashto (the official languages of Afghanistan). This paper will present the DDL and offer insights to the open access repository movement in a developing country such as Afghanistan, through the experiences of the recruitment of authors for materials and other volunteers, quality control of contributions, and promotion and marketing of the resource to the target audience: Afghan educators.

A primary goal of the DDL is to build the capacity of Afghan educators to develop resources to share in the library. While Afghan teachers are best suited to design or adapt curriculum for their local contexts, contributions by Afghan educators can be difficult to obtain due to their traditional methods of pedagogy, or lack of confidence in designing instruction or in using technologies necessary to contribute to a digital library. The DDL is taking steps to alleviate these gaps, and to recruit Afghan teachers as contributors. As such, the DDL is providing opportunity to improve teacher practice as it introduces new technologies for teaching and learning, provides access to relevant and open online instructional resources, and models pedagogy trainings for educators designed to support using the DDL for effective teaching and learning in Afghan classrooms.

Overview of the DDL

The DDL is dedicated to providing free and equitable access to learning resources and has a commitment to providing collections in Afghanistan's two official languages of Dari/Farsi and Pashto, in addition to English. There are also plans underway to provide resources in three minority languages spoken in Afghanistan -- Uzbek, Nooristani and Hazaragi.

The DDL focuses on aggregating open educational resources (OER) that are aligned to education goals in Afghanistan and will prepare learners with the knowledge and skills they need in the 21st century. The library's collections are designed to serve the needs of all teaching and learning communities in Afghanistan, including: basic education teachers and students (grades 1-12); early childhood education teachers; faculty and students at colleges, universities, and technical schools; adult and lifelong learners; those who teach and learn in informal settings such as museums, libraries and technical centers; and anyone with a curious mind who wants to expand their knowledge on a topic.

The DDL contains over 2,000 Open Educational Resources (OER), many created expressly for the library, on a wide variety of subjects. In order to optimize resource description, discovery

¹ The DDL is accessible at: <https://www.ddl.af/en>

and sharing, the DDL underwent a major restructuring in early 2017, which included the adoption of a full metadata application profile (adapted DCMI/LRMI) and resources within the DDL are currently being reviewed and tagged with the new descriptors. Resources are described by subject, education level, learning resource type, media format, educational use, language, and license type. DDL subjects are grouped into seven categories: applied sciences, education, language arts, life sciences, mathematics, physical sciences, and social sciences. Topics in the Afghan basic education curriculum are covered, plus professional development topics for teachers, and a variety of additional subjects of interest to teachers. Users can also request resources on new topics and the library regularly considers requests and user demand.

In order to ensure the library continues to grow in value to Afghan teachers and learners, the overall development and growth of the Darakht-e Danesh Library is guided by its *Collection Policy*², formalized in 2016-2017. The *Collection Policy* is supported by several key documents, including: *DDL Resource Priorities & Selection Guidelines*,³ *DDL Resource Quality Checklist*,⁴ and the *DDL Weeding Guidelines*.⁵ These documents together provide the guiding framework for accepting submitted resources and overall management of the collection development.

The DDL uses a variety of means to understand resource needs and to determine DDL coverage, including survey data, DDL server logs, user requests, availability of new collections of resources, Afghan education frameworks, and requirements of funding programs and projects that support the DDL scope and mission. As outlined in the *DDL Collection Policy*, DDL leadership reviews progress in collection building and outlines an *Annual Declaration of Need* that guides collection development priorities for the year. The 2017 *Declaration of Need* identified that DDL needs collections of multilingual resources (Dari/Farsi and Pashto) and related metadata that emphasize:

- Basic education (grades 1-12) biology, chemistry, physics, environmental science
- Basic education (grades 1-12) mathematics
- Children's storybooks
- Literacy education
- Early childhood education (ECE) and development (ECD)
- Computer science and digital literacy
- High quality educator-generated content
- Professional learning materials, particularly on the topic of learning assessment
- Materials that encourage critical thinking and problem solving in real world learning activities

Users must register to access the library, providing information about themselves such as the subjects and level they teach, language they teach in, and demographic characteristics such as age, sex, and location. This allows DDL staff to track who is using the library and how, as usage analytics are also available (such as how many resources a user views or downloads, and in which subjects). DDL has 1500 active users, representing all of Afghanistan's 34 provinces, though with a higher concentration in urban areas (especially Kabul), in addition to diaspora in countries around the world, from India to the US. Most (54%) users of DDL are aged 25-34, followed by those aged 18-24 (19%).

² [DDL Collection Policy](https://www.darakhtdanesh.org/en/library-policies/ddl-collection-policy): <https://www.darakhtdanesh.org/en/library-policies/ddl-collection-policy>

³ [DDL Resource Priorities & Selection Guidelines](https://www.darakhtdanesh.org/en/library-policies/ddl-resource-priorities-and-selection-guidelines): <https://www.darakhtdanesh.org/en/library-policies/ddl-resource-priorities-and-selection-guidelines>

⁴ [DDL Resource Quality Checklist](https://www.darakhtdanesh.org/en/library-policies/resource-quality-checklist): <https://www.darakhtdanesh.org/en/library-policies/resource-quality-checklist>

⁵ [DDL Collection Weeding Guidelines](https://www.darakhtdanesh.org/en/library-policies/ddl-collection-weeding-guidelines): <https://www.darakhtdanesh.org/en/library-policies/ddl-collection-weeding-guidelines>

Users are encouraged to contribute their own content by submitting it to the site, and are guided in how to share the work of others or license their own work through local language explanations of open licensing. This process is helping to introduce open licensing to Afghanistan. However, so far most content has been produced by the DDL team, drawing from OER in English and translating them into Dari and Pashto. Translations are carried out by the DDL team of volunteers, bilingual Afghans around the world who contribute to developing the collection by giving their time to work on translations.

The DDL is also available offline, when the team installs the program onto one computer acting as the server from which a lab of computers can access it, as a local wireless network. The library has been installed to work offline in nine teacher colleges in Afghanistan. This allows faculty and students at the colleges to use the DDL despite a lack of internet connection. This is a low-cost method of providing access to the library in rural areas. The DDL is also available as an app which can be downloaded onto a mobile phone or tablet, which will also work offline after installation.

Quality Control

A DDL resource is considered to be high quality if it:

- is openly licensed;
- is aligned with DDL collection priorities;
- includes reliable and relevant content;
- is completely and accurately translated;
- is free of distracting advertising or inappropriate content;
- provides for authentic learning through real-world applications, problem solving, inquiry and critical thinking, and;
- supports the preservation of Afghan heritage.

The DDL ensures all content is of high quality by a process of quality control on content and translation. Full-time members of the DDL staff and volunteer subject specialists carefully review the educational relevance and accuracy of the content submitted, as well as the accuracy of the translations (see Figure 1). The DDL strives to offer the most appropriate and best quality open access resources to support the Afghan teachers.

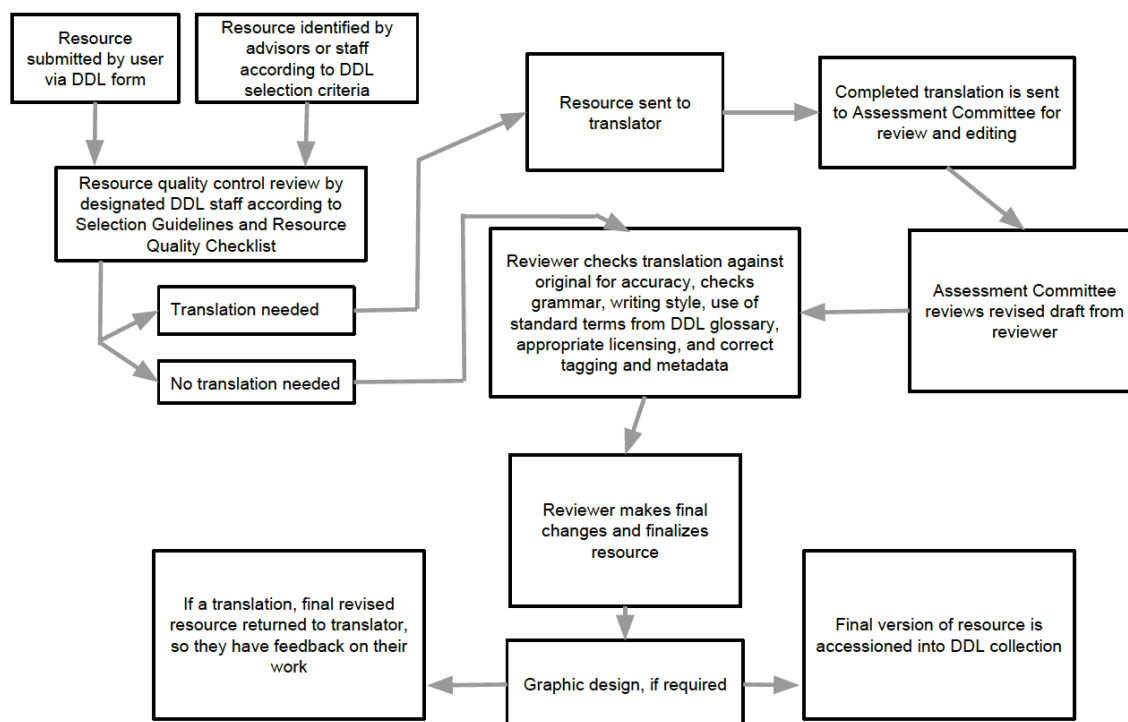


Figure 1: Quality Control Workflow

Content on the DDL is provided through submissions from users and from DDL advisors or staff. The *Resource Priorities & Selection Guidelines* offer a general framework for growth of the DDL collections, including an annual “Declaration of Need” to highlight particular collections that need development. A *Resource Quality Checklist* is available on the DDL website and provides guidance to teachers, advisors and collection developers of criteria used when reviewing and selecting resources for inclusion in DDL. Submitted content is routed to designated DDL staff to evaluate for educational relevance to the Afghan context and accuracy of content, then routed for translation.

Translations and submissions are reviewed by DDL’s full-time multilingual editor, who approves final versions for publication, after making any revisions and checking the translation against the original. Edited versions are shared back to the volunteer translator to support the continued improvement of their translation practice. If a translation needs minor revisions, it is sent back to the volunteer for further work. In cases where a translation is of poor quality, it is not used and the volunteer is not assigned more work. The library also sources existing educational material in Dari or Pashto by formally seeking permission from the creators to include it in the collection. Material submitted by users is checked by the editor to ensure it meets the library’s collection development policies.

Each resource is then categorized and fully described, using a modified DCMI/LRMI educational metadata schema. Resources must be submitted using a form that requires the user to assign a predetermined subject area, learning resource type (book, lesson plan, map, syllabi, etc.), and resource level (preschool, primary, secondary, tertiary, etc.). Users may also provide natural language keywords during this step, but it is not mandatory. The descriptions are reviewed during the submission evaluation, and additional keywords added if deemed helpful.

When a user adds a new resource, they can select from 11 options for the terms of use applicable to the resource (Figure 2). Generally, the Editor prefers to publish openly licensed

resources (OER) such as those that use Creative Commons (CC) licenses; however, in some cases DDL has negotiated with the rights holder to a resource to include it in the collection with some restrictions that make it not open (such as disallowing translation). This is only in such cases where there are no resources of comparable quality available in the same language that are openly licensed. The DDL provides guidance to users in selecting the appropriate license, and includes a video explaining licensing, available in Dari, Pashto and English.⁶ The DDL team also travels to teacher colleges around Afghanistan to provide demonstrations on using the DDL, which also includes an introduction to intellectual property including both traditional copyright and open licensing. The DDL also contains a full course for Afghan teachers on creating OER.

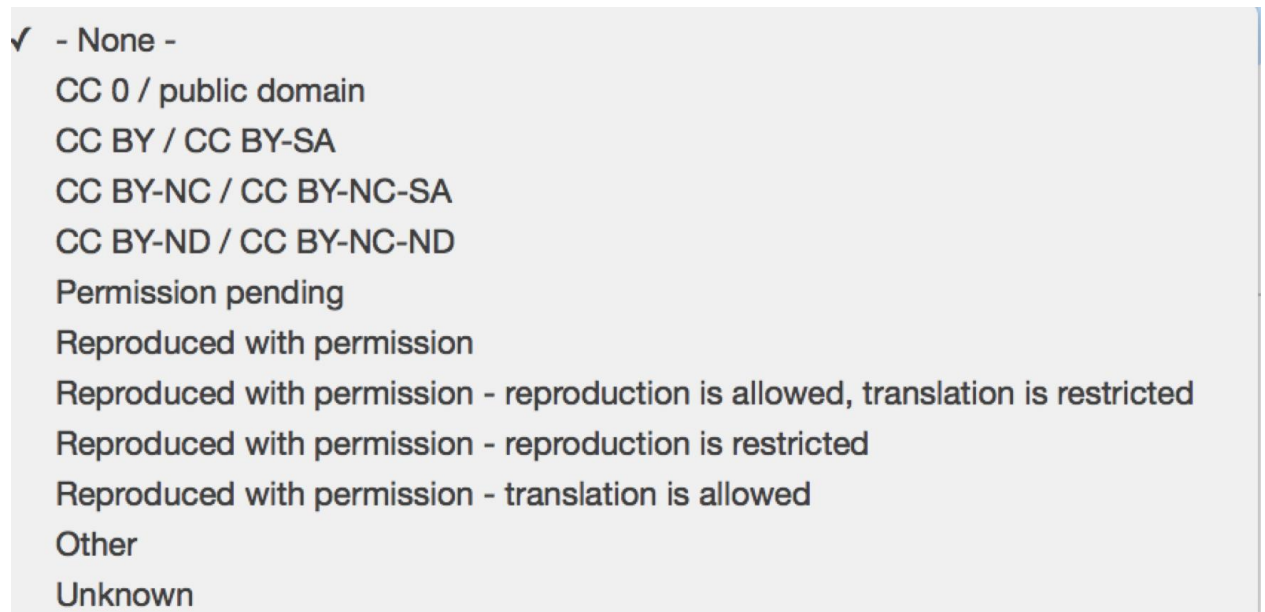


Figure 2: Licenses Menu in the DDL

The content on the DDL is continuously reviewed for alignment with the collection policy and guidelines for resource priorities and selection. The *DDL Weeding Collection Guidelines* guides the collection's content editor in decisions to remove content that is no longer available (links are broken or resource is no longer directly available online), out of date, or out of scope.

Volunteer Recruitment and Motivation

Much of the primary work of the DDL is done by volunteers both in Afghanistan and elsewhere, resulting in cost efficiencies that help keep the project sustainable. The DDL uses a variety of techniques to recruit and motivate volunteers both from within Afghanistan and the Afghan diaspora, including the use of social media, outreach events in Afghanistan, and visiting schools. Volunteers deliver demos of the library in schools and teacher colleges, and have had booths in exhibitions in Kabul. A video on Youtube also explains the DDL and its purpose.⁷ Events for volunteers, such as pizza parties, are held in Kabul to recognize the contributions of the volunteers and to motivate their ongoing involvement. Afghan volunteers

⁶ Pashto: https://www.youtube.com/watch?v=C_VE972gapo

Dari: <https://www.youtube.com/watch?v=P3GWIPYIWVs>

English: <https://www.youtube.com/watch?v=g8yJjciZ79A>

⁷ <https://www.youtube.com/watch?v=bF5dpED9W64>

are also recognized by being invited to request a book of their choice, which is donated by a Canadian volunteer. The library sources bilingual volunteers from the Afghan diaspora, particularly in Canada. Volunteers are recruited by word of mouth, events, social media appeals, the distribution of postcards highlighting the need for volunteers, and from within CW4WAfghan's network of supporters across Canada, which include many Afghan-Canadians.

To date, volunteers have fulfilled the functions of translation, promotion, outreach and demonstrations, and others have made in-kind contributions such as free graphic design. Volunteering is understood differently in Afghanistan than in the West, and often individuals expect monetary compensation such as a stipend, or assistance with meals or transportation. To address this, CW4WAfghan hosts orientation events for volunteers that describe expectations and terms in a volunteer position. A policy on volunteering is also shared with potential volunteers to clarify the role, responsibilities, and expectations for both CW4WAfghan and a volunteer. CW4WAfghan has found it is important to have a staff member designated to manage the volunteer program and to actively and consistently engage with the volunteers. We have also found that only a small portion, of around 5-10%, of those who approach the organization about volunteering end up committing to an ongoing role, which must be considered in the planning of volunteer recruitment and retention activities.

Providing content is also a volunteer effort, and it has been challenging to solicit content from Afghan teachers. This is due to several reasons including the concept of OER being new in Afghanistan, where sharing materials one has developed with others is uncommon. Teachers are encouraged during the training session to share their topical expertise and creative pedagogical approaches by submitting content. The low usage of internet among teachers is another factor; as beginner internet users, many teachers are barely comfortable finding and selecting OER to use let alone developing and uploading their own materials in a digital format. To address this, CW4WAfghan has guidance throughout the uploading webpage to assist them with each step. In addition, the organization developed a full course on creating OERs to help teachers acquire the skills to create their own OER, as well as to adapt, re-use and revise the work of others.

Recruiting and motivating volunteers is always challenging, but the DDL would be a poorer resource without the hard work of its volunteers.

Promotion

Promotion of the DDL relies on word of mouth not only from the CW4WAfghan staff, but from the teachers who have trialled and adopted the DDL. Indeed, the successful use by one teacher is likely to lead to colleagues testing and adopting the resource as well. To introduce the DDL to a potential user group (i.e., a school), CW4WAfghan and DDL staff conduct active outreach such as demos done in schools and teacher colleges. In a demo, the presenter explains the value of the digital library to the professional work of the teachers, then walks through the library's functions, explaining steps such as how to open an account, search for items or upload a resource, and describing concepts such as tagging and licensing. Samples of OER in different subjects and for different levels are shown throughout. If the demo is in a computer lab or participants have laptops, participants can follow along and try each step for themselves. The presenter also stays afterwards to assist those who want to access the library from their mobile phone or tablet. An app version of DDL was launched in July 2017.

Other means of promotion include billboards and swag such as temporary tattoos and bookmarks, which are handed out at demos, education fairs, conferences, and other opportunities. DDL also has several media sponsors including the most popular television network in the country, Tolo TV, and the most widely circulated newspaper, Hasht-e Sobh (“8 am”). DDL representatives have appeared on television programs such as the popular morning program, Bamdad-e-Khosh, Khorshid TV and National Education TV.

Like most innovations, the word of mouth transmission of positive experiences and successful adoption by one user leads to the adoption by other users. CW4WAfghan primarily relies on a hands-on, direct approach to introduce its target audience of Afghan teachers through demos of the DDL.

Impact

Although the efforts required for volunteer recruitment, quality checking, and promotion are substantial, a recent impact study found that the OER in the DDL positively impacted teachers’ knowledge and helped them in lesson preparation. The impact study examined the use of the DDL with a group of 48 teachers in a rural province in Afghanistan. The teacher group had a range of experience (2 to 20 years of teaching experience), levels of qualification, (high school graduates or lower to university graduates), and technology access (less than half had Internet access). The study used a pre-test/post-test framework to assess the teachers’ familiarity with and use of OER in their pedagogical preparations before and after training on using the DDL and a time period for them to use the DDL to assist with their preparations.

The study found that prior to their introduction to the DDL, nearly all the teachers did not understand the concept of open access and relied nearly solely on the state-approved textbooks for lesson preparation. However, the teachers’ understanding and use of open access improved after the introduction, training, and trial period of the DDL. Most teachers (70%) reported the DDL offers relevant materials, reflected by an average download of 12 items per teacher, but nearly half continued to use only the textbook in their lesson plan designs (suggesting this is an entrenched habit). The teachers’ lesson plans pre- and post-intervention showed improved instructional design, but their ability to design appropriate assessment techniques did not improve, indicating an area of development for the DDL content. Overall, the impact study found that the DDL is localized to the target audience and assists with improving understanding of open access and intellectual property (a concept not widely diffused in Afghanistan).

However there remains the challenge of raising awareness of the DDL and convincing users to adopt it. Increasing adoption of DDL use will require addressing demand and supply. In terms of supply, the library should continue to expand the collection with resources in demand by Afghans, monitoring those resources that are frequently downloaded, and surveying users on the type of resources they want. Other content the DDL will expand to offer include MOOCs (massive open online courses) in local languages on popular subjects, and video lessons. In terms of demand, enabling access is important in the Afghan context where internet penetration is modest but growing. The DDL team will continue to make the library accessible through a variety of means including its mobile app and offline at computer labs in teacher colleges.

Conclusion

Like all open access repositories, the DDL faces challenges with content contribution, quality control, and adoption, but its experiences in a developing country such as Afghanistan offer

insights to success of open access repositories. Recruiting and motivating volunteers rely on ensuring the volunteers understand the importance of the project and the value of their contributions. Volunteering is a new concept in Afghanistan, but those who understand how critical their performance is to the overall success of the DDL become dedicated contributors of their time and expertise. Recognizing volunteers for their work is a tried and true means of encouraging their ongoing performance, but the recognition must be provided in a way that is important to the volunteers. Quality control is assured through a dedicated full-time DDL staff member applying policies and checks for educational relevance and accuracy, and translation accuracy, with the cultural context always in mind as well. As content supply grows, an additional staff member, or carefully trained volunteers, will need to be added. Awareness and adoption of the DDL depends primarily on hands-on demos, because concepts such as copyright and open access are not widely known in Afghanistan. This does make diffusing the DDL somewhat more challenging, but the hands-on approach also offers the opportunity for the CW4WAfghan staff to engage directly with the target audience and encourage the adoption of the DDL.

Too often open access repositories are simply put online with the expectation that users will find it and use it of their own accord. The experience of CW4WAfghan with the DDL illustrates that a hands-on approach can reap benefits in the success of an open access repository. It also helps that the repository is frequently updated with useful resources, and provided in additional formats that address the access demands of the users. The DDL was launched with one purpose in mind: to support Afghan teachers in their search for high quality pedagogical material in their own languages. By constantly keeping this purpose and this target audience in mind, the development of the DDL reflects lessons that are important to bear in mind for any open access repository.

Acknowledgments

The authors acknowledge and thank Dr. Lauryn Oates, Program Director of the DDL, for her support.