

## RESEARCH ARTICLE

# Establishing an Online Writing Center for Health Professions Education

Afsaneh Dehnad<sup>1</sup>, Shirin Mohamadzadeh<sup>2</sup>, Shoaleh Bigdeli<sup>3\*</sup>, Leila Nemati-Anaraki<sup>4</sup>, Hamed Shirazinezhad<sup>5</sup>, Rafat Bagherzadeh<sup>1</sup>, Nasrin Sayfour<sup>1</sup>, Ahmad Ghashghae<sup>6</sup>

Dehnad A, Mohamadzadeh S, Bigdeli S, et al. Establishing an Online Writing Center for Health Professions Education. *Int J Biomed Clin Anal.* 2023;3(1):50-62.

## Abstract

**Purpose:** This study aimed to identify the commonly-used modules of Online Writing Centers worldwide to establish the first Online Writing Center in the context of health professions education in Iran.

**Design/methodology/approach:** This observational study was conducted during 2019-2021. In the initial round of search, we identified 61 eligible OWCs whose websites comprised 14 common modules. Then, we searched the top universities according to 2021 Times Higher Education World University Ranking. We probed the modules of the writing centers of the included universities by using a Google form. We identified the modules repeatedly appearing on the websites of the writing centers, and then

reviewed the content of each module in order to find a common label which could later be used for constructing our online writing center.

**Findings:** Our final search yielded 26 universities with 22 common modules. The researchers came to a consensus about the modules to be included and the labels assigned to them. Finally, a website was created, and the modules were included.

**Value of paper:** Online Writing Centers scaffold students by giving feedback on word choice errors and assist them in producing grammatically accurate texts. The Online Writing Centers being designed based on the findings of this study can assist many researchers who intend to publish their scientific findings in English.

**Key Words:** *Online writing centers; Writing; English for academic purposes; Health professions education; Iran*

<sup>1</sup>Department of English Language, Iran University of Medical Sciences, Tehran, Iran

<sup>2</sup>Department of English Language, Alzahra University, Tehran, Iran

<sup>3</sup>Center for Educational Research in Medical Sciences (CERMS), Department of Medical Education, School of Medicine, Iran University of Medical Sciences, Tehran, Iran

<sup>4</sup>Department of Medical Librarianship and Information Science, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran

<sup>5</sup>E-Learning Center, Iran University of Medical Sciences, Tehran, Iran

<sup>6</sup>Senior Researcher at Glasgow, Iran University of Medical Science, Tehran, Iran

\*Corresponding author: Shoaleh Bigdeli, Professor, Center for Educational Research in Medical Sciences (CERMS), Department of Medical Education, School of Medicine, Iran University of Medical Sciences, Tehran, Iran, Tel: +98 21 88622607; E-mail: bigdeli.sh@iums.ac.ir; sbigdeli@alumni.sfu.ca

Received: September 15, 2022, Accepted: May 05, 2023, Published: May 29, 2023



This open-access article is distributed under the terms of the Creative Commons Attribution Non-Commercial License (CC BY-NC) (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits reuse, distribution and reproduction of the article, provided that the original work is properly cited and the reuse is restricted to noncommercial purposes.

## Introduction

### Processes and approaches to writing

This study was conducted to establish an online writing center (OWC) at Iran University of Medical Sciences to help students and researchers with academic writing. In the following section we will explain the importance of writing, academic writing, writing centers and online writing centers.

Regardless of how proficient one may be in a language, writing can turn out to be one of the most complex skills to develop [1,2]. This is mainly because writing in any language involves going through various stages and cognitive processes. The writing model of Flower and Hayes [3] is one of the most oft-cited frameworks for describing and explaining writing sub-processes which consists of planning, during which writers decide on and conceptualize the messages and ideas that they intend to communicate, translation, for which writers draw on their long-term memory and convert their conceived messages into actual words and sentences and reviewing, during which writers evaluate and revise their sentences and implement the necessary changes. According to their model, writing proceeds in a cyclical manner in the sense that writers keep monitoring their ideas, plans, and sentences as they write. This may result in frequent revision of the sentences.

There are four major approaches to writing: product approach focusing on grammar, vocabulary, spelling, punctuation, and cohesive device process approach addressing the skills used in writing genre approach highlighting texts and their relationship with the social environment and literacy approach considering writing as a social practice and aiming at empowering learners [4]. Each of

these approaches poses certain challenges for writers and could have different implications for language teachers.

### Complexities and features of academic writing

When it comes to second language writing for academic purposes in higher education settings, the difficulties involved in writing are compounded by the fact that writers need to be conscious of and pay close attention to the clarity of their argument, depth of analysis, and the level of criticality in their writing [5]. Following strict and highly specialized requirements of academic discourse [6], using appropriate and precise academic vocabulary items [7], avoiding plagiarism and academic malpractice as well as abiding by citation and referencing conventions [8] are amongst the key factors contributing to the complexities involved in writing for academic purposes. Additionally, according to Hyland [9], in academic writing, students have to get involved with various knowledge and skills than what they might be accustomed to. Academic texts are highly formal and, as Hyland [9] suggests, this high level of formality is achieved through the use of “specialist vocabulary, impersonal voice and the ways that ideas get packed into relatively few words”.

There are certain features that distinguish academic writing from other sorts of writing that one might encounter at home or work. According to Hyland [9], the first important feature is “high lexical density” which refers to a “high proportion of content words in relation to function words such as prepositions, articles and pronouns which make academic writing tightly packed with information”. The second prominent feature is “high nominal style” which means that “actions and events are presented as nouns rather than verbs to

package complex phenomena” [10]. Owing to the multifaceted nature of academic writing skills and the difficulties involved in mastering them, university students in different disciplines often struggle to write academic essays or even fail to complete their coursework if they are not adequately supported.

### **Emergence of writing centers**

These challenges as well as the growing population of international students have resulted in the emergence of writing centers in educational institutions across the world, most notably in North American, Hong Kong, South Korea, Taiwan, and some European countries [11]. Such centers assist students with writing essays, dissertations, and reports. The Baylor Writing Center Tutor Guidebook defines a writing center as a “beyond-the classroom space where students can explore confusing or challenging educational issues through dialogic relationships” [12]. Although these centers are now fairly established in North American higher education institutions, it cannot be argued that the notion of a writing center is equally recognized and similarly understood in different parts of the world. Policies also vary as to the main functions of writing centers. By way of illustration, at the University of North Texas at Dallas, the writing center is not teacher-fronted, and tutors are not meant to take on the role of experts or professors – they do not edit texts for students, nor do they tell them what to write. Rather, they collaborate with students to discover effective writing strategies. The University of Toronto writing center’s mission statement states that instructors will help students plan, organize, write, and revise academic papers on any subject. Some other institutions, however, emphasize that they do not offer any proofreading or editing services (e.g., Dalhousie University, University of Ottawa).

There is also a debate about how native- and non-native English-speaking tutors can support students. While most of the previous empirical studies have focused on native English-speaking tutors, very few studies have looked at how students can benefit from non-native speaking teachers [13].

### **Variety in the writing centers’ supports**

Most writing centers aim to ultimately shift students’ attitudes about writing rather than helping them prepare a single assignment or paper. Therefore, in these writing centers, the focus of support and tutorials is on individuals rather than on papers and assignments. While in some institutions writing centers are staffed by academics and faculty members, in others they are staffed by volunteers and students. Some writing centers have a single tutor, whereas others have both science tutors and writing tutors [14].

Despite all these variations in terms of the amount and type of support, the linguistic background of tutors, and staffing issues, there are certain shared principles underlying the philosophy of writing centers [15]. First, as Moussu [15] argues, “WCs are places where all clients are welcome to receive free advice in a safe and pressure-free environment that favors a collaborative approach to instruction because tutors do not assign grades to their clients’ papers”. Second, as it was discussed above, in all writing centers the ultimate goal is to “produce better writers, not better writing” [16]. Gillespie and Lerner (as cited in Moussu [15]) instruct that Writing Centers tutors must not “fix texts; we teach writers how to fix texts. We don’t tell writers what to write; we ask questions about and react as readers to what writers have already written or are thinking of writing”. This implies that tutors are not allowed to edit students’ texts – students own the texts and are responsible for

editing them.

Third, as it was discussed above, writing is thought of as a process; therefore, in all writing centers, clients are advised to pay attention to higher-order writing concerns such as organization and argumentation. Form-focused editing and revising is the last stage of writing. According to Moussu [15], these basic principles could cause frustration as most students refer to writing centers for lower-order writing concerns such as grammar and vocabulary. This is in line with the observation of Bell and Elledge [17] indicating that “tutors often experience dissonance when working with [...] students because they feel tension between what the student wants out of the session, which is often help with surface features and grammar, and what the tutors have been trained to address, which is the process orientation and global issues”.

Notwithstanding these shared principles, what seems to be crucially important is the realization that cultural variations considerably affect the kind of support that students might expect to receive from a writing center [18]. Whilst in some cultures students expect to be supported by higher-order concerns (i.e., minimalist tutoring), in other cultures, students may refer to writing centers to receive support with editing, revising, or even rewriting parts of their essays. This could have implications for ethical decision-making.

Historically, compared to those who work in math labs, writing center/lab tutors and administrators have been much more concerned about plagiarism and ethical issues [19]. This is mainly because writing has always been construed as a solitary and individual undertaking rather than a collaborative activity. This, of course, is fairly discipline-specific and there are different attitudes towards collaborative writing

across various disciplines – i.e., compared to hard sciences, soft sciences (social sciences and humanities) seem to be less likely to accept and favor collaborations among students and tutors. Unlike hard and pure sciences, soft and applied sciences are more likely to consider form and style, rather than just content and ideas, as the essence of a text [19]. Therefore, in addition to cultural considerations, it would be necessary to take into account discipline-specific attitudes towards what might be interpreted as collaborative writing.

Writing centers usually offer support with both EFL/ESL and subject-specific writing. For example, Purdue Writing Lab supports students from a wide range of backgrounds (e.g., social sciences, engineering, healthcare, journalism and journalistic writing, and art history). In English for Academic Purposes (EAP) literature, a distinction has been made between general EAP and specific EAP. Hyland [9] discusses numerous arguments in support of general EAP:

- Language teachers are said to lack training, expertise, and confidence to teach subject-specific conventions.
- Teaching subject-specific skills relegates EAP to a low-status service role by simply supporting academic departments rather than developing its own independent subject knowledge and skills.
- There are generic skills which are said to differ very little across the disciplines.
- EAP courses should focus on a common core – a set of language forms or skills that are found in all, or nearly all, varieties and which can be transferred across contexts.

On the other hand, supporters of specific EAP argue that:

- EAP classes don't just focus on forms but teach a range of subject-specific communicative skills as well.
- There are serious doubts over a 'common core' of language items.

A major weakness is that it focuses on a formal system and ignores the fact that any form has many possible meanings depending on its context of use". These arguments warrant the need for a dual-route program of support for students. Yet, as discussed above, a wide range of other cultural, theoretical, and ethical considerations need to be considered. All this would mean that any decision-making for establishing a writing lab is rather complex and would require a detailed analysis of students' discipline-specific needs and cultural background as well as a meticulous review of institutional policies and practices regarding ethical issues and dilemmas.

### Online Writing Centers

Online writing centers/labs (OWLs) refer to web-based services providing materials for users' self-learning or teaching materials for writing classes. They can support students by giving feedback on word choice errors, helping them produce grammatically accurate texts, providing links to additional resources, providing comments like peer interaction, and scaffolding students to move towards student agency. Like web-based resources, online writing centers are available to everybody, anytime and anywhere. Additionally, the services of these centers, which are often located in universities, go beyond the boundaries of a university [20].

To develop online writing centers, it is important to determine the configuration of the center according to the users' needs, wants, and desires, and the writing goals of the institutes. Harris and Pemberton [21] provide some models

according to which the interaction between the online writing center and users could be real-time or displace-time, while providing some standard contents [21].

### The current study

This study was conducted as the first phase of a project for establishing an online writing center at Iran University of Medical Sciences. This center, if established, could provide services to help users improve their writings, edit their papers, and use the resources required for academic writing in the setting of health professions education. A review of online writing centers worldwide is essential before designing an online writing center in order to explore the modules of the websites used in various centers. This provides a better understanding of its usability in serving the users' needs and approaching the research objectives of the university. To this end, this study was conducted to explore the modules of the available online writing centers via addressing the following research questions:

- What are the major modules of an online writing center?
- What labels are used for naming each module?
- What is the content of each module?

### Method

This study, conducted during 2019-2021, was based on observation, identification, nomenclature, comparison, and description of the reviewed websites of online writing centers. The search was performed in two phases. Initially, we searched Google with the keywords of "online writing center" OR "online writing lab", leading to the inclusion of about 3,280,000 results (Table 1).

**Table 1**  
**Search query of 29 Jan 2019 all in text: “online writing center” OR “online writing lab”**

All Results	University Center/Lab	College Center/Lab	Irrelevant Results
185	61	48	75

N.B: Among 3,280,000 results, only 185 results were displayed (to show the most relevant results, Google omitted some entries very similar to the 185 already displayed)

The inclusion criteria were websites of online writing centers that possessed accessible modules and provided online services to improve university students’ writing. We excluded those centers which were not providing online services or the modules of whose websites were not accessible at the time of search. Then, only 185 results appeared to meet the inclusion criteria. A closer look at the results showed that there were 61 university writing centers and 48 college writing centers, relevant to the topic of the search.

The research team consisted of four persons from the English Language, one from Medical Librarianship, and one from Medical Education departments, two software engineers from e-learning center of Iran University of Medical Sciences (IUMS), and a graduate of healthcare management. We probed the modules of the writing centers in universities by using a Google form. Table 2 presents a list of the universities providing online writing centers.

**Table 2**  
**A list of modules and the corresponding online writing center**

<b>Welcome section/a paragraph about the center (91.80%)</b>		
• About the Center	• Strengthen Your Writing Skills	• Welcome to the Online Writing Center
• How to use the Online Writing Center	• The ability to write well is not a....	• Welcome!
• Meet Us Online	• The Writing Center at ....	• What is the ECSU OWL?
• Online Writing Center	• UWC – Online	• What is the Online Writing Lab (OWL)?
• Online Writing Lab	• Want to improve your writing?	• What is the Online Writing Lab?
• Online Writing Lab (OWL)	• Welcome	• What is the...
• Online Writing Suite	• Welcome to	• Write here. Write now.
• OWC Services	• Welcome to the	
• OWL		
• OWL Policies		
<b>Asynchronous Tutoring Services (80.33%)</b>		
• Asynchronous tutoring	• Online Submission Form.	• Submit a request
• Comment on your writing assignment	• Online Writing Lab Request	• Submit an Essay
• Draft Review	• OWL Student Submission form	• Submit Draft
• Email	• OWL Submission Form	• Submit OWL Request
• Email (asynchronous) consultation	• Paper review	• Submit papers online
• Email Instruction	• Post writing assignments	• Submit your paper
• Email tutoring	• Submission Form	• Submit your paper online
• Email-based tutoring service	• Submit	• Submit your undergraduate Paper
• E- tutoring	• Submit a Draft	• Submitting your work online
• E-Tutoring	• Submit a paper	• Tutoring
• Feedback Request Form	• Submit a Paper Form	• Upload Your Paper
• Online consultation	• Submit a project	

---

**Synchronous Tutoring Services (49.18%)**


---

- |   |                             |   |
|---|-----------------------------|---|
| • Get an Online Tutor                     | • Meet with a tutor online  | • Skype appointments                    |
| • Grammar Studio                          | • Online appointment system | • Skype/face time                       |
| • Have a synchronous (real time) session  | • Online consultation       | • The Service                           |
| • Live appointments                       | • Online meeting            | • Using Skype for online consultations  |
| • Live Chat & Email Assistance            | • Online scheduling system  | • Video Tutoring                        |
| • Live consultant                         | • Online Services           | • Virtual synchronous tutoring sessions |
| • Live one-on-one assistance              | • Online session            | • Virtual writing conference            |
| • Live Tutoring                           | • Online Tutor Session      | • Zoom (synchronous) video consultation |
| • Make an Appointment                     | • Online Tutoring           |   |
| • Make an appointment for a Skype session | • OWC Live                  |   |
| • Meet Online                             | • OWL Phone Consultation    |   |
|   | • Skype                     |   |
- 

**Resources (45.90%)**


---

- |                                |                                     |   |
|--------------------------------|-------------------------------------|---|
| • Additional Resources         | • OWL Guidelines                    | • The Writing Process                         |
| • APA                          | • Punctuation and Grammar Errors    | • Tips and Tricks                             |
| • APA Citations                | • Research and Citation             | • Tips for Essay Writing                      |
| • Citations                    | • Research Tools at WKU Libraries   | • Tutorials                                   |
| • CMS Citations                | • Research Writing                  | • Tutors Resources                            |
| • English as a Second Language | • Resources                         | • Useful Links                                |
| • Exercises                    | • Resources for Instructors         | • Vidcasts                                    |
| • External Links               | • Resources for Writers             | • Videos                                      |
| • FACULTY WRITING SUPPORT      | • Resources for Writing Consultants | • Visuals                                     |
| • General Writing              | • Student and Faculty Resources     | • WC Strategic Plan                           |
| • Graduate Writing Resources   | • STUDENT WRITING                   | • Web Links                                   |
| • Grammar and Mechanics        | • Students Resources                | • Writer's Handbook                           |
| • Grammar Guides               | • Style Guides                      | • Writing Assistance                          |
| • Handouts                     | • Subject-Specific Writing          | • Writing Center Resources                    |
| • Helpful Handouts             | • Teacher and Tutor Resources       | • Writing Great Discussion Posts              |
| • Job Search Writing           | • Teachers Resources                | • Writing Guides                              |
| • Learning Commons             | • Teaching Resources                | • Writing Podcasts                            |
| • MLA / CMS                    |                                     | • Writing Resources                           |
| • MLA Citations                |                                     | • Writing the Paper                           |
| • Off Center Magazine          |                                     | • Writing Tips                                |
| • Online Guides                |                                     | • Writing Tools                               |
| • OWL faqs                     |                                     | • Writing, Format, & Citation Style Resources |
-

---

**Guidelines for Using the Online Writing Center (45.90%)**


---

- A Guide to the OWL for Professors and Students
  - Accepted assignments
  - Accessing Tutor Comments
  - Advice for Classroom Teachers
  - Ask questions through a forum
  - Before You Schedule an Appointment:
  - Connection Problems
  - Follow these three easy steps to use the Online Writing Center:
  - Forms and Documents
  - Getting started
  - Guidelines
  - Guidelines:
  - Helping Your Students to Use the Writing Center Effectively
  - How do I sign up for the online Writing Lab?
  - How do I use the UWRF OWL?
  - How do you sign up for an OWL appointment?
  - How to Make an OWL Appointment
  - How to Refer Students
  - How to use the Online Writing Center
  - How to use the OWL
  - How to...
  - Instructions
  - Instructions for Online Appointments
  - Online Appointment Philosophy
  - Online Appointment Rules
  - Online Appointment Trouble Shooting
  - Online Appointment Tutorial
  - Online Writing Center Tips and Features
  - OWC Guidelines
  - Please Keep in Mind
  - Please take the time to read the following
  - Policies and Guidelines
  - Pre-Online Requirements
  - Submission Guidelines
  - To access the Online writing Center
  - To Participate in a Session
  - To Submit your Paper
  - What We Can Do for You
  - Who can use the OWL?
  - About
  - A Few Things We Can't Do
- 

**About (37.70%)**


---

- About the OWL
  - About Us
  - About Writing Center
  - Events
  - Fee Policy
  - For all other questions
  - Freelance Editors
  - Highlights of What We Do
  - Hours & Location
  - Join us online!
  - Locations & Hours
  - Mission
  - Mission and Outcomes
  - Mission Statement
  - Note for Instructors
  - Note for Students
  - Online Instructors
  - Online support for student writing
  - Online Writing Center Hours
  - Our Mission
  - Please read...
  - Quick Reference
  - Reports
  - Schedule
  - Social Media
  - Submission Process:
  - The OWL also offers:
  - Tutoring
  - Welcome From the Director
  - What can I expect from a tutor?
  - What does the OWL do?
  - What People Say About the Writing Center
  - What to Bring?
  - What to expect?
  - What We Do
  - What We Do Not Do
  - What you can expect
  - What you should not expect
  - Why Use the Online Writing Lab?
  - Why we're here
  - Writing Center Sessions
- 

**Contact Info (27.87%)**


---

- Additional Information
  - Contact
  - Contact info
  - Contact Us
  - Contact
  - For Additional Information
  - For More Information
  - Information
-

<b>Support (16.39%)</b>		
• Ask a Question	• Instructors and the Writing Center	• Site Map
• Classroom Writing Activities	• More Writing Help	• Supporting Our Faculty
• Enroll	• Need Help Navigating the New Site?	• Supporting Our Students
• Glossary	• Note for Faculty	• Writing Center Job Aid
• Information for Your Syllabus	• Quick Questions	
<b>FAQ (16.39%)</b>		
• Commonly Asked Questions	• FAQ	
<b>Staff (13.11%)</b>		
• Meet Our Tutors	• OWL Staff	• Staff and Tutors
• Meet the OWL staff	• Staff	• Who's on Staff?
<b>In-Person Services (11.48%)</b>		
• Classroom Presentations and Workshops	• Schedule a Class Visit	• Workshops for Instructors
• Creative Writing	• Schedule an Appointment	• Workshops for Students
• Face-to-face	• Tutoring	• Writing Fellows Program
• Request an Orientation	• Workshops	• Writing Workshops
<b>Collaboration (9.84%)</b>		
• Apply to Be a Writing Tutor!	• Interested in Becoming an Online Writing Tutor?	
• Become a Consultant	• MT Engage eportfolio	
• Become a Tutor		
• Engagement		
• Research		
<b>News (6.56%)</b>		
• Events and Outreach		
• Spotlight Resource		
• Upcoming Events		
• Writing Events		
<b>Courses/Programs (4.92%)</b>		
• Associated Graduate Courses	• Online Learning Assistant Program	
	• Writing Fellow	

By performing the initial search, we identified some modules which repeatedly appeared on the websites of the writing centers. We then reviewed the content of each module in order to find a common label for that module. After collecting different labels used for each module of the online writing center, we decided to apply the most frequently used labels for naming each module (Table 2). As most online writing centers were located in the USA, we decided to continue our search with the top universities worldwide

to have more variation in the information we attempted to obtain.

Thus, we included all the universities based on The Times Higher Education World University Ranking of 2021. We navigated the universities' websites to find their writing centers. Then, we searched the writing centers of each top university in order to find various modules located on their panels such as "About", "Contact Info", and "News". We carried on

our search until we could not find any new module on the websites indicating that we reached saturation by searching 26 universities. However, as Purdue University is an important writing center, we decided to add the online writing center of Purdue to our search.

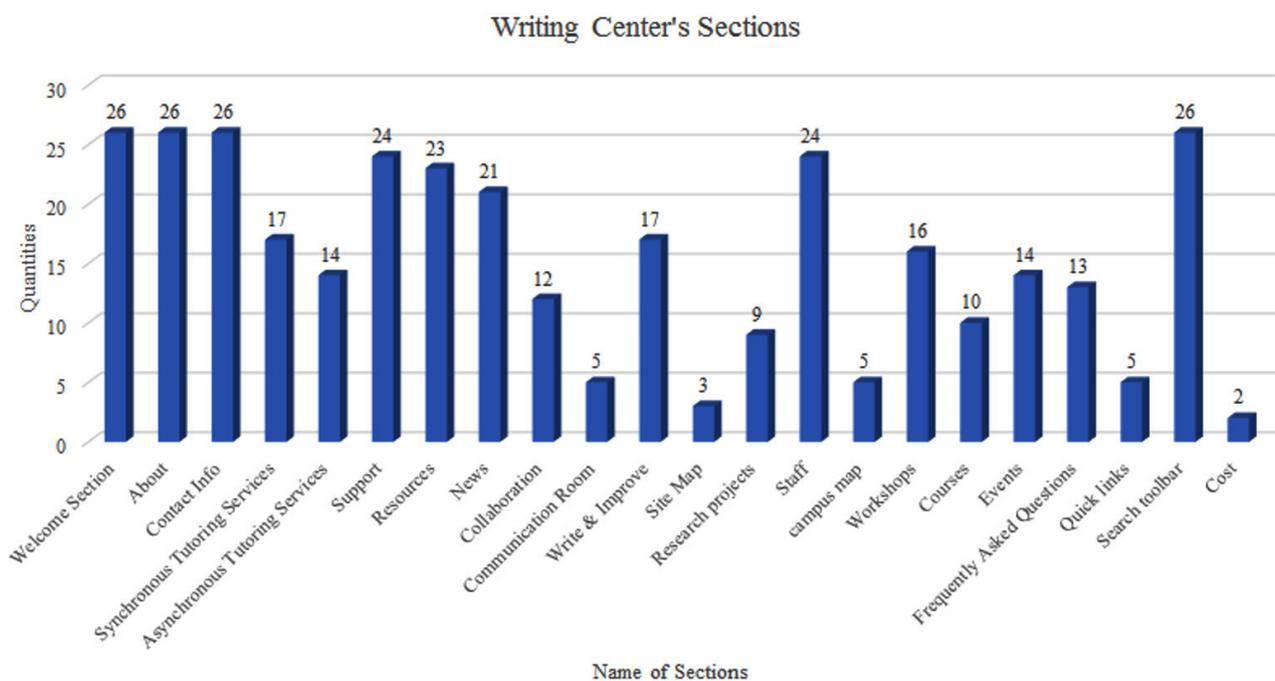
Upon identifying the common modules of the reviewed online centers, the researchers held two panels to determine the modules to be included on the website of the online writing center and the labels to be assigned to them.

## Results

The results of our initial search showed that some modules were similarly presented in different universities. A list of these modules along with their frequency in percentage is displayed in **Figure 1** (For a more detailed list, see Tables 3 and 4).

The results of our main search demonstrated that, according to the Times Higher Education World University Ranking of 2021, and among the world's top 100 universities, 26 universities had some common features and attributes, including Welcome Section, About, Contact Info, Asynchronous Tutoring Services, Synchronous Tutoring Services, Support, Resources, News, Collaboration, Communication Room, Write & Improve, Site Map, Research projects, Staff, Campus Map, Workshops, Courses, Events, Quick links, and Search toolbar.

After a thorough and close examination of each section of the websites, we noticed that all centers had Welcome, Contact, and Search sections (n=26). Moreover, Support and Staff (n=24), and Resources (n=23) were followed by News sections (n=21). The frequency of other sections fluctuated based on the objectives of each center (See Table 5 in Supplementary Materials).



**Figure 1)** The frequency of modules included in the reviewed online writing centers.

Based on the review of the online writing center sites of the top-ranking universities, we prepared a list of the most common modules to be included on the website we were planning to establish. The list was discussed in the research team, and ultimately, the team agreed on Home, About, Resources, Services, and Price modules. Moreover, we decided to add Request Form and Language modules to the list. Ultimately, we designed the pilot webpage by including these items.

## Discussion and Conclusion

This study was conducted to identify the common modules of online writing centers for the purpose of establishing a similar center at Iran University of Medical Sciences. The findings revealed 22 common modules in the online writing centers of the top 100 universities.

Our findings indicate that the Welcome section presents an overview of the modules of the writing center and contains all the options, sections, and services provided by the center to the users. It helps users have a general survey of different sections of the center. It is worth mentioning that in some centers this section is overlapped with the section About. The About section, while similar to the Welcome section in some centers, includes basic information about the center such as history, human resources, missions, and policies. Thus, the research team decided to have the About section in which we could introduce the center and the goal(s) of providing services in the center.

The Contact Info section presents channels of communication and information regarding the address, telephone number, working days/hours, emails, a link to make appointments, and social media pages through which users could contact the center. The research team believed that this section was an inseparable section of a

writing center, and it was included in the list of our online writing center modules.

Synchronous and Asynchronous Tutoring Services are offered by some universities. However, due to the limited budget, we decided to dismiss this module as well as the Communication Room providing a virtual private space with all the features of a virtual classroom, at least for the initial stage of the center establishment.

Moreover, the Support section often provides services to promote the development of good writing skills necessary for all users, mainly students, to become confident and independent writers. This was the main goal of this research, and we decided to focus on the support module to help our users in the field of health professions education to become autonomous writers.

The Resources section includes different services for the users, e.g., information about various programs, courses, and modular courses offered by the center for writing papers, doing assignments, and writing dissertations. We decided to offer this module by creating some content on the basic principles of writing.

The News section offers different news about the center, the ongoing events, future events, workshops, global subjects, and other important information which might attract users' attention. As our center was at its infancy we decided to omit this module. For the same reason, we omitted Collaboration section which was about creating opportunities for users to collaborate with the center on education, research, and overall improvement to help improve the quality of services. We did not include Site Map and Campus Map which were not commonly provided by the centers. In these sections, all the components of the website can be found at a glance. Moreover, some centers provide

the users with a list of the faculties and other personnel who are engaged in the center, but the research team decided that the members remain anonymous for the time being.

Frequently Asked Questions, as the name indicates, help users ask their questions without making direct contact with the personnel. This module was believed to be useful and, therefore, was included in the list. Quick Links and Search Toolbar were also essential and helpful. As these links facilitate a quick search in the main sections of the website, they were included in the list. Finally, we included Prices along with the services provided. The prices were based on the price list of the National Translators Network in Iran.

This is the first study searching online writing centers to identify the modules needed to be addressed when establishing an online writing center. As online writing centers are becoming an integral part of academic settings, the findings of the present study can contribute to the development of the relevant projects in progress. However, another study to pave the

way for developing a rich source of features of academic writing and a phrase bank of expressions used in health-related academic writing is recommended. We believe that the services along with the resources and the phrase bank would help the users become better writers in the field of health professions education.

### **The Study Limitations**

This study was based on traditional literature review; however, we believe that conducting a systematized review of the websites and texts provides richer results.

### **Ethical Considerations**

As the study was not on human subjects, no ethical code was needed. We observed ethical considerations when reporting the findings on online writing centers.

### **Acknowledgment**

This research was supported by the Office of Vice-Chancellor for Research of Iran University of Medical Sciences (Code 97-01-67-33147).

### **References**

1. Hashemian M, Farhang-Ju M. Effects of metalinguistic feedback on grammatical accuracy of Iranian field (in)dependent L2 learners' writing ability. *J Res Appl Linguist.* 2018;9:141-61.
2. Jam B, Shahin L. Investigating the efficiency of two writing strategies among Iranian EFL learners: translated writing vs. reading to write. *J Res Appl Linguist.* 2012;3:67-81.
3. Flower LS, Hayes JR. A cognitive process theory of writing. *Coll Compos Commun.* 1981;32:365-87.
4. Badger R. Teaching and Learning the English Language: A Problem Solving Approach. Bloomsbury Academic, London, England. 2018.
5. Wingate U. 'Argument!' helping students understand what essay writing is about. *J English Acad Purp.* 2012;11:145-54.
6. El-Dakhs DAS. Why are abstracts in PhD theses and research articles different? A genre-specific perspective. *J English Acad Purp.* 2018;36:48-60.
7. Csomay E, Prades A. Academic vocabulary in ESL student papers: a corpus-based study. *J English Acad Purp.* 2018;33:100-18.
8. Lee JJ, Hitchcock C, Casal JE. Citation practices of L2 university students in first-year writing: form, function, and stance. *J English Acad Purp.* 2018;33:1-11.

9. Hyland K. *English for Academic Purposes: An Advanced Resource Book*. Routledge, London, England. 2006.
10. Halliday MAK, *The Language of Science*. Continuum, London, England. 2006.
11. Tan BH. Innovating writing centers and online writing labs outside North America. *Asian EFL J*. 2011;13:390-417.
12. <https://silo.tips/download/baylor-school-writing-tutor-manual-marsha-e-penti-director#modals>
13. Okuda T. Student perceptions of non-native English speaking tutors at a writing center in Japan. *J Second Lang Writ*. 2019;44:13-22.
14. Nakatake M. Challenges and possibilities in tutorials in a writing center in Japan. *The Language Teacher*. 2013;37:17-20.
15. Moussu L. Let's talk! ESL students' needs and writing centre philosophy. *TESL Can J*. 2013;30:55-68.
16. North SM. The idea of a writing center. *Coll English*. 1984;46:433-46.
17. Bell DC, Elledge SR. Dominance and Peer tutoring sessions with English language learners. *Learning Assistance Review*, 2008;13:17-30.
18. Gally T. The cultures of writing centers. *Komaba Journal of English Education*. 2010;1:61-84.
19. Clark L. Collaboration and ethics in writing center pedagogy. *The Writing Center Journal*. 1988;9:3-12.
20. Paiz JM. Expanding the writing center: a theoretical and practical toolkit for starting an online writing lab. *TESL-EJ*. 2018;21:1-18.
21. Harris M, Pemberton M. Online Writing Labs (OWLs): a taxonomy of options and issues. *Comput Compos*. 1995;12:145-59.