

ORIGINAL ARTICLE

Open Access



# The devil's in the detail – counting unique and organic contract cheating sites targeting higher education students in the UAE as a call to delegitimize them

Zeenath Reza Khan\* 

\*Correspondence:  
zeenath.khan@gmail.com

University of Wollongong  
in Dubai | Centre for Academic  
Integrity in the UAE, UOWD  
Building, Knowledge Park, Dubai,  
UAE

## Abstract

When considering a paradigm shift in higher education, it is imperative to focus on removing obstacles against maintaining integrity in academia. One such obstacle is contract cheating sites that have mushroomed disproportionately during the 18 months of emergency distance learning threatening graduate quality and university reputations (McKie, Essay mills targeting students as pandemic crisis shifts HE online, 2020). It was sharply brought to focus in 2015 due to a mass-scale scandal involving 16 universities and more than 1000 students leading to a subsequent law making such services illegal in Australia. Contract cheating is a mushrooming industry that is constantly targeting often unsuspecting students under the guise of legitimate help. Moreover, these services in turn began black mailing students after delivering services (Draper et al., Int J Educ Integr 17:13, 2021). It is therefore vital to explore the existence and number of such websites that target students in UAE, sometimes using university logos to show legitimacy to understand the extent of the problem. This is primarily because an accurate measure of the extent does not currently exist (Newton, Front Educ 3:67, 2018). Curtis et al. (Stud High Educ. <https://doi.org/10.1080/03075079.2021.1972093>, 2021) have reported on self-reported cases from students which can be varied and often under-reported. This study is an attempt at using Boolean search technique to count unique and organic websites that have manifested. Coded analysis was used to collate the websites and count the total number of searches. For a total of 34 unique and organic websites, 29 showed a z score higher than the mean value 2.94, at standard deviation of 1.89, positing that the probability of appearance of these 29 websites across different search engines, different browsers and across separate search keywords was significant. This demonstrates the aggressive nature of these sites and their considerable efforts to offer a service that is harmful and detrimental to the students and education sector. This study is a milestone towards developing a nation-wide understanding of contract cheating in the UAE. It is also positioned as a proposal for higher education sustainability in the nation to look to ban services that offer to write assignments for students with or without a fee as a top-down approach to tackling the issue.



**Keywords:** Contract cheating, paradigm shift, higher education, academic integrity, legislation, count

## Introduction

Essay mills and ghost/contract writers have existed long before the COVID19 pandemic. These services complete assessments for students often in exchange for payment, who then submit the assessments for grading; this is known as contract cheating (Clarke and Lancaster 2006). As early as 1940s, some studies recorded that such ghost-writing services were offered for higher education students with brick-and-mortar firms providing these services across many states in the USA (Singh and Remenyi 2015; Stavisky 1973). While academic misconducts such as exam cheating, fabrication, misappropriation, plagiarism, and such are governed by individual university constitutions, rules, and policies; academics, researchers and lawmakers have been grappling with the “third party” involvement of contract cheating which is also difficult to detect and goes beyond the jurisdiction of an institution. Draper and Newton (2017) identified the stakeholders involved in contract cheating as governments, regulators, university, staff, students, websites, advertisers, essay companies, and writers among others; and particularly described third party as the stakeholder that “contribute[s] to the work of the student, such that there is reasonable doubt as to whose work the assessment represents” (para 1). The issue then becomes the external influence yielded by the “third party” and their marketing strategies to reach students, and “convince students that they need these services, often presenting their offer as a support service, rather than one that is helping students to cheat by design” (Lancaster 2020, para 1).

Contract cheating is a major concern for higher education institutions. A study by Newton recorded a staggering 15.7% of students using essay mills, which can amount to more than 31 million students from around the world (Newton 2018). In Australia, this figure was 2–4% through self-reporting (Bretag et al. 2019); however, a recent study has shown that 1 in 10 students may contract cheat, suggesting self-reporting may not be the most accurate way to determine the current scenario when recording instances of contract cheating (Curtis et al. 2021). This problem seems to have been exacerbated by the onset of the emergency distance learning and hybrid learning models that institutions scrambled to adopt at the advent of the COVID19 pandemic in 2020. Essay mills mushroomed globally offering services and discounts to students to not only complete their assessments such as reports but also take their exams online (Hill et al. 2021).

It then becomes vital to explore the existence of such websites that target students in the UAE, and more specifically to discover how many websites exist that offer unscrupulous services in the nation. It is believed that the results will contribute as first steps to recognizing (and taking firm actions against) contract cheating as an academic and social menace which in turn will pave way for future policy and possibly legislation discussions surrounding the legitimacy of such services as legal businesses.

This paper proposes to conduct an internet/web-based search and survey to identify unique and organic websites that specifically target and promote essay mill services to students in the UAE, believed to be a crucial step towards recognizing the proportion of the problem. The remaining paper is organized in the following manner: the next section delves into academic integrity and its importance in higher education, then

moves to look closely at contract cheating a bit further. The next section then identifies the research objective of the paper and how it positions as a step towards a paradigm shift in the higher education scene in the UAE, followed by the results, discussion, and conclusion.

### **Academic integrity and paradigm shift in higher education**

Academia has seen tremendous number of changes due to many factors such as globalization, demand for higher quality education, and so on, some slow and some radical leading to paradigm shifts (Blessinger et al. 2018). The education sector post-COVID19 pandemic is seeing a shift once again, this time not just due to the fourth industrial revolution but also because of the challenges that have been posed due to emergency distance learning, and other hybrid models of teaching and learning that have taken precedence.

Change is the most inevitable constant, but sometimes the sector is slow to adapt. Technology has and continues to shape how we view teaching, learning, and assessing students. The fourth industrial revolution has pushed us to look beyond traditional sources of knowledge to see how we can enhance student capacity to make them future-ready. Where artificial intelligence is producing content (Marr 2019), digitized lessons and grading software are helping single instructors manage huge classrooms (Analytics Insight (AI) 2021), and robots replace mundane tasks performed by humans (Gentile et al. 2020), originality and integrity in assessed work in academia has become of vital importance (Eaton 2021).

Academic integrity has been defined by the European Network for Academic Integrity (ENAI) as “Compliance with ethical and professional principles, standards, practices and consistent system of values, that serves as guidance for making decisions and taking actions in education, research and scholarship” (ENAI 2018). Over the last decades, higher education institutions, faculty and researchers have focused more and more on upholding academic integrity to address quality of education, value of degree offered and ultimately to prepare graduates for the workforce (UOW 2021).

There is enough research addressing the concerns surrounding academic integrity and upholding its values of fairness, courage, trust, honesty, respect, and responsibility (ICAI 2018). Studies have highlighted importance of policy and procedures (Bretag et al. 2018), strategies on how to promote integrity (Bertram Gallant 2008), assessment design (Rogerson 2017) and so on. Most studies show a paradigm shift in the sector with more institutions and quality assurance bodies looking to ensure integrity is maintained and tracked. Joint collaborations, memorandums of understanding, networks, funding, and projects that involve researchers and academics representing global teams have been forged to tackle the various issues.

### **Contract cheating – a social and academic menace**

While academic misconducts can take many form (Newstead et al. 1996; Khan 2014), the one we focus on in this study is contract cheating, the behaviour where students get someone else to complete their assessments possibly for money or some other exchange and submit the work for grading. As mentioned before, contract cheating is not a new phenomenon. But, ubiquitous nature of the internet, ease of doing

commerce over the web and internationalization of higher education have helped this industry grow to the \$1 billion that BBC claims it is (BBC News 2019).

The issue of detection of contract cheating is an alarming concern for academics. While text-matching software help to certain extent in recognizing similarity of submitted text that may lead to identifying alleged cases of plagiarism (Eaton et al. 2020); identifying an assessment that was a product of contract cheating can be challenging to prove, and more challenging to penalize (Rogerson 2017).

Contract cheating was propelled to the limelight as a global menace after 16 universities in Australia had to investigate nearly 1000-students for using one essay mill (Visentin 2015). Known as the 'MyMaster' essay cheating scandal, the case made headlines internationally as it uncovered the depths of the issue, leading to expulsions, revoking of already-conferred degrees, suspensions, and fail grades among degrees of severity and punishments that followed. It ultimately led to law making such services illegal in Australia (TEQSA 2021).

The phenomenon of contract cheating is difficult to detect, yet more sinister as it minimizes capacity and knowledge building in students and poses serious threat to institutions' reputation through poor graduate-quality and ultimately poor performance in the job market (Lancaster 2016). Unfortunately, during the pandemic, alongside increase in online learning, contract-cheating services also flourished, targeting unsuspecting students online, taking advantage of their vulnerability (McKie 2020). Moreover, these services in turn begun black mailing students for more money after delivering services (Draper et al. 2021).

Bretag and Harper (2017) posited that systemic approach is crucial to tackling contract cheating, with academic integrity central to "wide range of institutional activity and processes, including: student recruitment, orientation and induction; policy and procedures; teaching and learning practices; working with students; the professional development of staff; and the use of technology" (Morris 2018; para 4).

In fact, Khan et al. (2020) posited that contract cheating is a social menace, looking at the issue as a multi-faceted problem like other social issues such as drug addiction, alcoholism, bullying and so on and proposed ways to tackle it holistically with awareness programs, legislations and so on.

One of the methods that is gaining momentum more and more is that of a legal approach to tackle this issue. Australia, New Zealand and 17 states in the USA have all introduced bans as law against essay mills (Busby 2018). Draper and Newton (2017) postulated that in fact a ban on essay mills is likely to work towards minimizing contract cheating. Similarly, Khomami (2017) and Marsh (2017) also posited that government institutions should work to eliminate essay mills. But these studies came to this conclusion in the heels of studies by UK's Quality Assurance Agency (QAA) that reported on how 100 or so essay mill websites were in operation within the country, and comprehensively looked at how the industry works, advertises, targets victims (students). Ireland followed suit and banned essay mills in 2018 (McKie 2018), and UK confirmed its legislation and ban in 2022 (QAA 2022).

### United Arab Emirates and higher education

The United Arab Emirates (UAE) is a hub for higher education, having expanded exponentially in the last decades (David 2017). Founded in 1971, this young nation is celebrating its 50 years, with a population of 9.9 million strong (Macrotrends 2021) showcasing a diversity of population from India, Pakistan, Bangladesh, Egypt, Philippines, China, and many others (Edarabia 2021). Since the first higher education institution launched in 1976, the country has focused on enhancing the quality of education and the education system. The Commission for Academic Accreditation (CAA) was established as the Federal Government's Quality Assurance Agency (CAA 2021), having now accredited over 1000 programs across seven emirates (states) that include federal, local government, private and semi-local government institutions and over 250,000 students in higher education sector (CAA 2020). While there are institutions spread across the seven emirates, most are in the capital Abu Dhabi and the next bustling city, Dubai. Abu Dhabi has the ADEK (Department of Education and Knowledge) whose main purpose is in developing and promoting an education system that "promotes a culture of creativity, sustainability and excellence, with a focus on developing human, social and economic capabilities" (ADEK 2021). Dubai has a further local governing body overlooking licensing and quality of institutions called Knowledge and Human Development Authority (KHDA) that supports the schools, universities, students, and other stakeholders (KHDA 2021).

While the country's Vision 2021 National Agenda emphasized the development of a "first-rate education system" (Vision21 2018), the leaders of the nation put forward 10 guiding principles for the Next 50, which not only highlights education but also "digital, technical and scientific excellence [...] openness and tolerance, preservation of rights, rule of justice and law ... [among others]" (Nasrallah and Cherian 2021).

Quality education is not only the United Nation's Sustainable Goal 4, but also at the heart of what the UAE promises potential students looking to the country for higher education, with a mobility ratio of 48.6%, higher than most countries globally (Shukla 2021). The Ministry of Education has forged memorandums and partnerships with external agencies such as TEQSA (Australia), QAA (UK), HKCAAVQ (Hong Kong) and others to raise the "bar of quality of the higher education landscape in the UAE" (CAA 2020, p8). KHDA worked with TEQSA to develop the Toolkit to support quality assurance agencies to address academic integrity and contract cheating (INQAAHE 2020). There have been two international conferences organized in the UAE on academic integrity in the past, one in 2016 in collaboration with International Centre for Academic Integrity (USA) (UOWD 2016) and a second one in 2020 bringing European Network for Academic Integrity's annual conference to the UAE in collaboration with Dubai Tourism (UOWD 2020).

There have been some studies conducted within the nation to look at the status of academic integrity and misconducts. Of particular interest is a 2018-study presented at an international conference. Through a focus-group interview ( $n = 22$ ), this study showed 86% of the students agreed that they knew someone who had in fact requested for third party help in writing an assessment (Khan et al. 2018, 2019). The study further postulated that although the results were indirect, the findings were significant as 77% of the students said they had heard of some student turning in work done by someone other than the student themselves and 91% had heard of students who may have received

unpermitted help on an assignment (Khan et al. 2018, 2019). The authors pointed to the fact that they used focus group as a methodology that may have led to high confidence in anonymity and hence the result. Furthermore the study showed that students were surprised to find “[c]ompanies seem to know exactly who we are, where we study, and contact us on a regular basis, as if from a database of clients” (Khan et al. 2019; p207).

Three other significant studies on contract cheating have looked at the success of using awareness programs to inform students of the detriment of contract cheating (Khan et al. 2020); a study in 2020 that highlighted how savvy these essay mills were in targeting and marketing their services by ranking them and making them look innocent using bait and persuasion techniques (Daly 2020) and a further study that positions the contract cheating behaviour beyond a social issue to looking at it as an unwholesome demand derived from the Transformatory Consumer Research (TCR) which make contract cheating an addictive behaviour (Vel and Khan 2021).

### **Research objective**

Existing body of literature has already highlighted the importance of recognising contract cheating, detecting it in submitted assessments, having appropriate policies within institutions to set standards, and how countries are advancing towards legal actions to ban essay mills with some success. Australia’s TEQSA’s win against a foreign essay mill where the telecommunication companies in the country are now required to block the website(s) that are identified as essay mills (Ross 2021) is further proof that legislations can have a bite that can help higher education institutions handle third party interference.

Given that we have seen self-reported cases of contract cheating among students in the UAE, it is therefore the objective of this study to now identify and count the number of organic and unique websites that target students studying in the UAE. It is believed that this will help management, faculty and particularly policy and legislation makers to consider a similar path as countries like UK, Ireland, New Zealand, Australia, and USA to consider delegitimizing essay mills as a proactive method in making higher education sustainable and accessible to all.

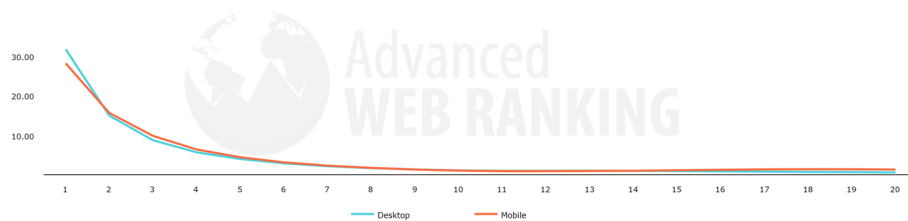
### **Methodology**

To address this research objective, the study used a web-based research method using the web as a research resource (Allan 2016). This method was combined with content analysis “to determine the presence of certain words... to quantify and analyse the presence... of such certain words” (Columbia University 2019, para 1) that allowed us to identify and count the number of websites that represent essay mills targeting students in the UAE.

### **Inclusion criteria**

To narrow down the search, a Boolean search technique was used within each single search query to connect words. Boolean is a search technique that basically uses what is known as the Boolean logic, referring to the mathematician George Boole’s system of logic OR, AND, and NOT (Hansen et al. 2020). This allows combining single words or strings of words when searching on the web (Case 2020).





**Fig. 1** Organic CTR History for Desktop and Mobile Searches as of September 2021

To triangulate results, two different and popular search engines were used, that is [www.google.com](http://www.google.com) and [www.bing.com](http://www.bing.com). Moreover, two separate browsers (Chrome and Firefox) were also used to ensure maximum convergence of results.

Terminologies selected to use were:

- “essay-writing”,
- “ghost-writing”, and
- “assignment-writing”

Another condition used to narrow down the search was the word “UAE” on websites which would have been used by the companies’ search engine optimization process (SEOs) to bring the website higher up in the ranking for searches by users. SEOs are basic improvements a company has made to their site to increase its visibility to the client and a great marketing tool to increase visibility and ranking of the websites in user search results, especially compared to competitors (Chaffey et al. 2009; Search Engine Land (SEL) 2021).

Studies have shown that optimization ranks *searches* on the first page for as high as 92%–95% organic traffic clicks (Shelton 2017). In fact, studies have posited that most users will not even go beyond the first five listings on a search engine results page (SERP) (Jacobson 2015). In fact, the illustration (Fig. 1) from Advanced Web Ranking visually shows how the click-through rate (CTR) of organic searches reduces drastically from the first page. Therefore, we counted results from the first page of each find in each browser for each string of word searches.

Websites may be deemed as unique and organic when their visitors are able to find them immediately by using a search engine (Omniconvert 2020). Organic refers to those users who land on a website without any paid advertisements and not referred by any other websites (Omniconvert 2020). We are not considering the other type of traffic here, namely ‘direct’ because that would imply the student already has the link to the site and simply visiting it. This method is significantly different from studies done in the past as those looked at the generic total number fed back by search engines such as “6,890,000 results”. For instance, Hill, Mason and Dunn presented a study in 2021 on identifying the scope of contract cheating services. The study used web-based analysis and online research method along with search strings ‘assignment help’ and ‘exam help’ through Google and Google Scholar and reported “Google search for the term ‘assignment help’ returned 279,000,000 results in 2020 and 302,000,000 in 2021” (Hill et al. 2021, p9). The

study then, however, went onto to present summary excerpts from the sites that showed up on the first page without further clarifications or justifications.

The aim for this study was to identify, tabulate, code and then count unique and organic websites that were essay mill services targeting students in the UAE as shown in Fig. 2:

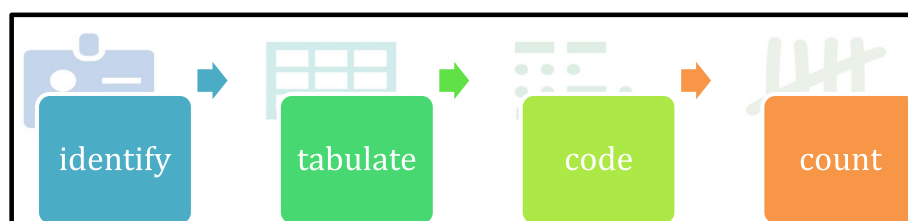
- Identify – Recognise the unique and organic website by name of the site
- Tabulate – For each search query, tabulate the results
- Code – Use coding system for each unique and organic site identified
- Count – Use formula to count the number of unique codes

Coded analysis was used to collate the websites and count the total number of searches.

### Exclusion criteria

It is very important to also identify the exclusion criteria for the study which will help to control the scope of the study (Patino and Ferreira 2018). In this case, the exclusion criteria refer to what we did not consider when counting the websites that appeared during our search query and what we did not specifically look for:

- We did not focus on domains like .ae or .com or .org  
This is because the essay mills did not necessarily use a particular domain to launch websites for their services. Therefore, it is believed including domains would make the search too restrictive and not give us a real count of the U&O sites.
- We did not include general repositories or news sites  
It is important to note here that essay mill services are companies that provide homework writing, assessment writing services to students. They are dynamic websites that are offering a service to the students, hence this exclusion.
- We did not include Google Scholar or Journals  
As above, third party essay mill sites are commercial companies that provide services for payment (Bomford 2016; Draper and Newton 2017) and hence scholarly articles or sites were not included.



**Fig. 2** ITCC Methodology Framework



**Table 1** Raw data Table 1

Essay Writing and UAE			
Firefox	Chrome	Firefox	Chrome
6,890,000	6,890,000	9	9
E*****ae	essay*****ae		
w*****ae	w*****ae		
e*****ae	e*****ae		
*****help.ae	*****help.ae		
w****.ae	w****.ae		
A*****.com	a*****.com		
a*****.ae	Aq*****.ae		
M*****.ae	M*****.ae		
es*****e.ae	es*****e.ae		

**Table 2** Raw data Table 2

Assignment Writing and UAE			
Firefox	Chrome	Firefox	Chrome
2,940,000	3,250,000	10	11
a*****.ae	assi*****.ae		
a*****uae.ae	a*****.ae		
gotoa*****.com	a*****uae.ae		
assi*****.ae	gotoa*****.com		
w*****e	assi*****.ae		
my*****.ae	w*****e		
mya*****.com	my*****.ae		
Uae*****help	mya*****.com		
w****.ae	uae*****help		
essayw*****e	w****.ae		
	essayw*****e		

## Results and analysis

For the inclusion terms on Google and through Firefox and Chrome, the following results were recorded for identifying and tabulating stages of the method (see Tables 1, 2 and 3):

For the inclusion terms on Bing and through Firefox and Chrome, the following results were recorded (see Tables 4, 5 and 6):

To confirm that the sites were truly targeting students in the UAE, we further visited the websites identified to check the mention of the country “UAE” and/or any mobile number or WhatsApp number provided that was “local” to the country with code 00971xxxxxxx. The screen grabs for the top searches are given below (Figs. 3, 4 and 5):

Once we identified and tabulated the websites, we then coded the sites as shown in Fig. 6. This made it easy to calculate the frequency of the sites appearing across the different browsers and search engines.

Finally, the coded results were used to calculate the frequency of search yield, the z score, mean and standard deviation for accuracy as shown in Fig. 7.

**Table 3** Raw data Table 3

Ghostwriting and UAE			
Firefox	Chrome	Firefox	Chrome
824,000	1,210,000	12	14
		f****.com	F****.com
		Up***.com	Up***.com
		Flo****.com	Flo****.com
		Fre*****.com	Fre*****.com
		Read*****.com	Read*****.com
		w****.ae	w****.ae
		Tru*****.com	Tru*****.com
		The*****.me	The*****.me
		Re***.com	Re***.com
		Al****.com	Al****.com
		7g*****.com	7g*****.com
		Writ*****.ae	Writ*****.ae
			Writ*****.ae
			Y****.ae

**Table 4** Raw data Table 4

Essay Writing and UAE			
Firefox	Chrome	Firefox	Chrome
9,390,000	9,410,000	7	8
		e*****.ae	e*****.ae
		essayw*****e	essayw*****e
		w****.ae	w****.ae
		*****help.ae	*****help.ae
		w*****e	w*****e
		Es*****.ae	Es*****.ae
		a*****.ae	a*****.ae
			A*****.com

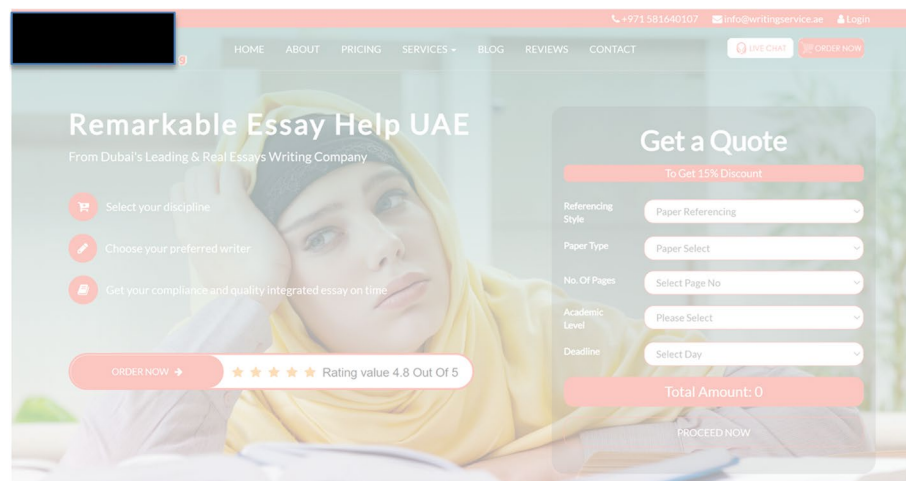
**Table 5** Raw data Table 5

Assignment Writing and UAE			
Firefox	Chrome	Firefox	Chrome
6,690,000	6,690,000	5	5
		a*****.ae	a*****.ae
		assi*****.ae	assignmentw*****e
		assignmentw*****e	a*****uae.ae
		Assi*****.ae	uaea*****.ae
		a*****uae.ae	e*****ae

As can be seen in Fig. 7, for a total of 34 U&O websites were identified after removing all duplicates across Google and Bing, and Chrome and Firefox. When calculating the z score, with the exception of five, all showed a z score higher than the mean

**Table 6** Raw data Table 6

Ghostwriting and UAE			
Firefox	Chrome	Firefox	Chrome
119,000	119,000	5	5
		Th*****.me	Th*****.me
		Up****.com	All*****.com
		All*****.com	Up****.com
		Tru*****.com	Tru*****.com
		studenta*****.com	studenta*****.com

**Fig. 3** Screen Grab for site code A1**Fig. 4** Screen Grab for site code A2

value 2.94, at standard deviation of 1.89, positing that the probability of appearance of these 29 websites across different search engines, different browsers and across separate search keywords was significantly higher for students. More specifically, for the website codes A1 and A2, the z score was 4.44, showing that these two sites were 4.44 standard deviation from the mean value of 2.94, almost twice the value positing the greater significance in the sites being presented as search result to students. A5 and

The image contains two screenshots of a website. The top screenshot is a contact form titled 'NEED MORE INFO?' with the instruction 'Please complete the form beside, you will get an answer shortly.' The form includes input fields for 'First Name', 'Last Name', 'Email Id', 'Phone Number', 'Preferred Services', and 'Project Details'. The bottom screenshot is the homepage of the website, featuring the text 'UAE's BEST ASSIGNMENT HELP AND WRITING SERVICE PROVIDER'. It describes the service as 'Assignment Help UAE' and lists several benefits: 'Plagiarism free content', 'Premium quality work', 'On-time delivery', 'Qualified expert writers', 'Unlimited revisions', and '100% confidentiality guarantee'. A prominent orange button says 'Get 'A Grade' Paper Now'.

**Fig. 5** Screen Grab for site code A5. Screen Grab for site code A6

A7 ranked significantly higher than any other site identified with z score of 7.44 and 5.44 respectively!

## Discussion and conclusion

The results presented in the previous section pose some significant findings that are believed to be vital in understanding how the essay mill market works in targeting students in the UAE. The top four essay mill sites seem to be common across both the search engines used, Google and Bing, and both the browsers Chrome and Firefox. What is also interesting to note here is that the four sites are all .ae domains. Although we did not specifically search for .ae domain, the result is significant that these sites appeared most through search and have the .ae domain, which is a country code top-level domain for the UAE. This could signify that the services are particularly targeting students in the UAE.

The four sites with the highest z scores also indicate that they prominently appear for the search query strings “essay writing and UAE” and “assignment writing and UAE” but not when “ghostwriting and UAE” are used. This finding is supported by similar findings by Daly (2020). In fact, sites that were found to use the tag or words or search criteria “ghostwriting” were significantly low in frequency when compared to the first two strings. This is important to note because it shows what users call such services and what they may be typing in when looking for such services.

GOOGLE Essay Writing and UAE				GOOGLE Assignment Writing and UAE				GOOGLE Ghostwriting and UAE			
Results found	Chrome	Actual U&O site	Chrome	Results found	Chrome	Actual U&O site	Chrome	Results found	Chrome	Actual U&O site	Chrome
6890000	6890000	9	9	2940000	3250000	10	11	824000	1210000	12	14
		A1	A1			A1	A1			C1	C1
		A2	A2			A2	A2			C2	C2
		A3	A3			A5	A5			C3	C3
		A4	A4			A7	A7			C4	C4
		A5	A5			B1	B1			C5	C5
		A6	A6			B2	B2			A5	A5
		A7	A5			B3	B3			C6	C6
		A8	A8			B4	B3			C7	C7
		A9	A9			B5	B4			C8	C8
						B6	B5			C9	C9
							B6			C10	C10
										C11	C11
										C12	C12
										C13	C13

BING Essay Writing and UAE				BING Assignment Writing and UAE				BING Ghostwriting and UAE			
Results found	Chrome	Actual U&O site	Chrome	Results found	Chrome	Actual U&O site	Chrome	Results found	Chrome	Actual U&O site	Chrome
9390000	9410000	7	8	6690000	6690000	5	5	119000	119000	5	5
		A1	A1			A7	A3			C14	C14
		A10	A10			B1	A7			C2	C2
		A2	A11			B3	B1			C6	C6
		A3	A2			B7	B7			C7	C7
		A4	A3			B8	B9			C9	C9
		A5	A4								
		A7	A5								
		A7	A7								

Fig. 6 Coded results to take into consideration duplicates

Sr#	U&O Website	Frequency of search yield	%Frequency	Z Score
1	A1	6	17.65	4.44
2	A2	6	17.65	4.44
3	A3	5	14.71	3.44
4	A4	4	11.76	2.44
5	A5	9	26.47	7.44
6	A6	2	5.88	0.44
7	A7	7	20.59	5.44
8	A8	2	5.88	0.44
9	A9	2	5.88	0.44
10	A10	2	5.88	0.44
11	A11	1	2.94	-0.56
12	B1	4	11.76	2.44
13	B2	2	5.88	0.44
14	B3	4	11.76	2.44
15	B4	2	5.88	0.44
16	B5	2	5.88	0.44
17	B6	2	5.88	0.44
18	B7	2	5.88	0.44
19	B8	1	2.94	-0.56
20	B9	1	2.94	-0.56
21	C1	2	5.88	0.44
22	C2	4	11.76	2.44
23	C3	2	5.88	0.44
24	C4	2	5.88	0.44
25	C5	2	5.88	0.44
26	C6	4	11.76	2.44
27	C7	4	11.76	2.44
28	C8	2	5.88	0.44
29	C9	4	11.76	2.44
30	C10	2	5.88	0.44
31	C11	2	5.88	0.44
32	C12	1	2.94	-0.56
33	C13	1	2.94	-0.56
34	C14	2	5.88	0.44

MEAN of Frequency	Standard Deviaton
2.94	1.89

Average # U&O sites (Bing)	Average # U&O sites (Google)
5.83	10.83

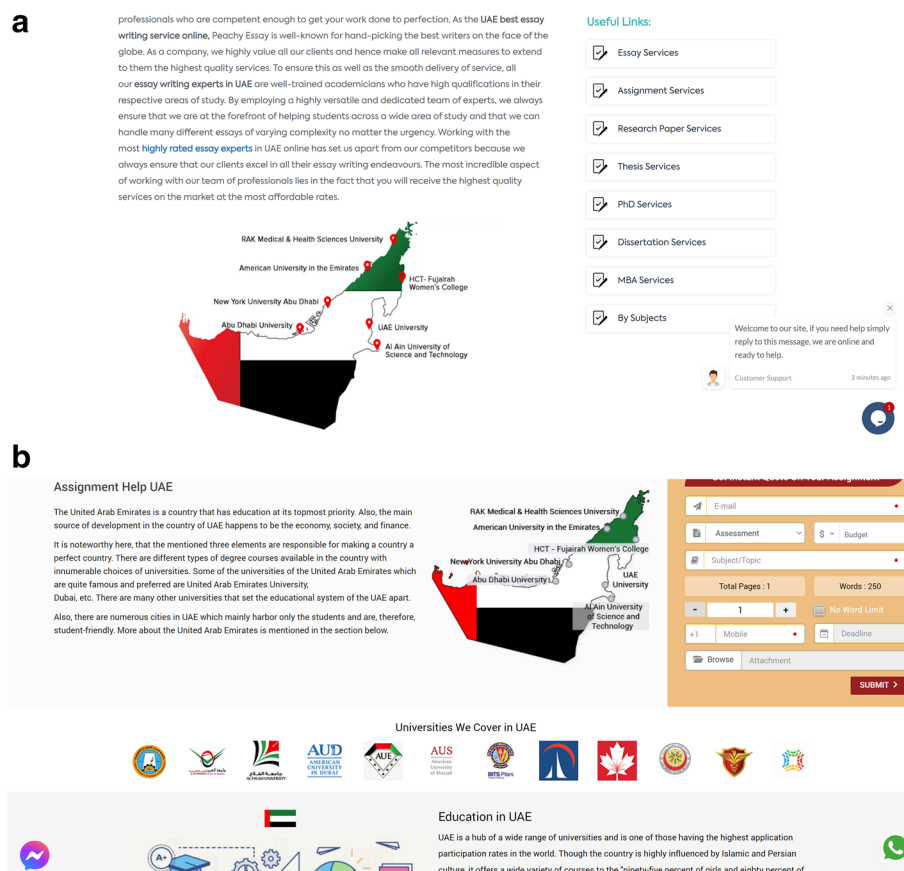
  

Fig. 7 Frequency of search appearance of U&amp;O sites, Z score, Mean and SD

The data obtained from this study highlights the significant number of U&O websites that currently exist within the first page of search. This demonstrates the aggressive nature of these sites and their considerable efforts to offer a service that is harmful and detrimental to the students and education sector, and their possible popularity. Moreover, while checking the websites for their target, the study also found some websites using logos of universities, names and such to make their services look more legitimate as shown in Fig. 8.

This finding is concerning because it poses the services as legitimate offerings there to help students with claims which are written to dupe students:

*“Unlike other companies that offer similar services, our goal as the UAE best essay writing service online is to help you attain a higher level of understanding of the various ways that you can write better essays. In regards to this, we always ensure that we create top quality essays that are free of plagiarism and grammatical errors.”*



**Fig. 8** Screen grab showing essay mills using university names and logos

*Quoted from [PeachyEssay.com](https://www.peachyessay.com)*

Findings from studies such as Rowland et al. (2017), Medway et al. (2018) or Ellis et al. (2018) also highlight similar kinds of assurances and credibility tactics used by essay mills.

Given existing studies that already show that contact cheating is a social issue (Khan et al. 2020) and can be addictive (Vel and Khan 2021), it is crucial then that we deal with contract cheating service providers (suppliers) with same contempt we would a drug dealer and develop a zero-tolerance policy for the same.

This study is a position paper believed to be a milestone towards developing a nation-wide understanding of contract cheating in the UAE. A preliminary report was presented at the ADEK Higher Education Excellence Conference in November of 2021, a national-level event to discuss excellence in higher education, followed by a featured presentation at the QS Higher Ed Summit in 2022. Based on feedback from the conferences and the results presented in this paper, a proposal for higher education sustainability and a paradigm shift is suggested as below:

- (1) In 2020, a study in the UAE showed how contract cheating as a social issue can be defeated through awareness campaigns to bring about understanding in students (Khan et al. 2020). So, it is highly recommended that institutional-managements

and policymakers recognize these services as detrimental to students' learning experience and increase their awareness efforts of such behaviour as misconducts so that these can lead to dialogue towards a paradigm shift.

- (2) Besides a policy that clearly covers such misconducts and their consequences, faculty should be trained to restructure assessments and recognise and detect authentic vs contracted work submitted by students. Faculty should also be encouraged to report such cases and committees in charge of assessing such cases should be trained in judging them appropriately.
- (3) A further inspiration can be taken from countries such as Australia, Ireland, New Zealand, UK and many states in the USA, to look at banning services that offer to write assignments for students with or without a fee (Hare 2019) as a top-down approach to tackling the issue nation-wide, with possible implications of delegitimizing such services. Australian legislation success has shown that this can be done, even for essay mills that exist outside the country but cater to students within the country.

It is a need of the hour that higher education dialogue includes contract cheating as a menace that is plaguing the academic world. Irrespective of where we are located, this global menace is everywhere, tarnishing and maligning our students, belittling the efforts by our faculty and institutions, and quality assurance bodies to uphold integrity and provide quality education that is inclusive and accessible to all students who wish to pursue higher education in the country. Based on the findings of this paper, we call for delegitimization of essay mill services that target students in the UAE and revolutionize the region towards higher standards of education and expectations from institutions and students seeking degrees from institutions operating inside the nation to make UAE a trailblazer for this paradigm shift not just among the neighbours but the entire continent.

This study is an attempt at exploring the existing and proliferation of essay writing services that target students in the UAE and does not aim to malign any institute or individual.

#### Abbreviations

UAE	United Arab Emirates
CAA	Commission for Academic Accreditation
ADEK	Department of Education and Knowledge
KHDA	Knowledge and Human Development Authority
TEQSA	Tertiary Education Quality and Standards Agency
QAA	Quality Assurance Agency for Higher Education
HKCAAVQ	Hong Kong Council for Accreditation of Academic and Vocational Qualifications
USA	United States of America
TCR	Transformatory consumer research
UK	United Kingdom
SEO	Search engine optimization
SERP	Search engine results page
CTR	Click-through rate
ITCC	Identify, tabulate, code, count
U&O	Unique and organic
SD	Standard deviation

#### Acknowledgements

Thank you to Centre for Academic Integrity in the UAE and University of Wollongong in Dubai for the support; the Department of Education and Knowledge (ADEK) in the United Arab Emirates and QS Quacquarelli Symonds Higher



Ed Summit – Middle East and North Africa 2022 for the opportunity to present some of the findings at their annual conferences.

#### Author's contributions

100%. The author(s) read and approved the final manuscript.

#### Funding

Nil.

#### Availability of data and materials

All data is already presented in the paper, however anonymised to remove actual identifying names of the companies.

#### Declarations

#### Competing interests

Nil.

Received: 27 January 2022 Accepted: 13 June 2022

Published online: 01 September 2022

#### References

- ADEK (2021). About us. Department of Education and Knowledge. <https://www.adek.gov.ae/en/About/About-Us>
- Allan A (2016) In: Greenfield T, Greener S (eds) Research methods for advanced web searching. Ch11 in research methods for postgraduates, 3rd edn. <https://doi.org/10.1002/9781118763025.ch11>
- Analytics Insight (AI). (2021). Will artificial intelligence replace teachers in the future?/ analytics insight. Stravium intel-ligence. <https://www.analyticsinsight.net/will-artificial-intelligence-replace-teachers-in-the-future/>
- BBC News. (2019). "E Kenyan ghost writers doing "lazy" Western students' work. Retrieved from <https://www.bbc.com/news/av/world-africa-50126963/the-kenyan-ghost-writers-doing-lazy-western-students-work>
- Bertram Gallant T (2008) Academic integrity in the twenty-first century: a teaching and learning imperative. Jossey-Bass, San Francisco
- Blessinger P, Reshef S, Sengupta E (2018) The shifting paradigm of higher education. University World News <https://www.universityworldnews.com/post.php?story=20181003100607371>
- Bomford A (2016) The man who helps students to cheat. BBC News <http://www.bbc.co.uk/news/magazine-36276324>
- Bretag, T. and Harper, R. (2017) Addressing contract cheating: local and global responses. Project on contract cheating and assessment design: exploring the connection PowerPoint presentation <https://cheatingandassessment.edu.au/publications-presentations/>
- Bretag T, Harper R, Burton M, Ellis C, Newton P, Rozenberg P, Saddiqui S, van Haeringen K (2018) Contract cheating: a survey of Australian university students. Stud High Educ. <https://doi.org/10.1080/03075079.2018.1462788>
- Bretag T, Harper R, Burton M, Ellis C, Newton P, Rozenberg P, Saddiqui S, van Haeringen K (2019) Contract cheating: a survey of Australian University students. Stud High Educ 44(1):1837–1856. <https://doi.org/10.1080/03075079.2018.1462788>
- Busby, E. (2018). Essay mills should be made illegal, university bosses say. Independent. <https://www.independent.co.uk/news/education/news/essay-mills-students-cheating-universities-vice-chancellors-department-education-a8557516.html>
- CAA (2020) Fact Book 2019–2020. Commission for Academic Accreditation (CAA), UAE. <https://www.caa.ae/PORTALGUIDELINES/Fact%20Book.pdf>
- CAA (2021) About us. Commission for Academic Accreditation (CAA), UAE. <https://www.caa.ae/Pages/AboutUs.aspx>
- Case (2020) Introduction to Boolean search. ICIMS <https://care.icims.com/s/article/Introduction-to-Boolean-Search>
- Chaffey D, Ellis-Chadwick F, Mayer R, Johnston K (2009) Internet marketing: strategy, implementation and practice. Pearson Education, UK
- Clarke R, Lancaster T (2006) Eliminating the successor to plagiarism? Identifying the usage of contract cheating sites. In: Proceedings of 2nd plagiarism: prevention, practice and policy conference 2006, Newcastle, UK, June 2006
- Columbia University (2019) Content analysis. Columbia University Irving Medical Centre, USA <https://www.publichealth.columbia.edu/research/population-health-methods/content-analysis>
- Curtis GJ, McNeill M, Slade C, Tremayne K, Harper R, Rundle K, Greenaway R (2021) Moving beyond self-reports to estimate the prevalence of commercial contract cheating: an Australian study. Stud High Educ. <https://doi.org/10.1080/03075079.2021.1972093>
- Daly T (2020) Bail and switch: the search engine optimization content practices of contract cheating websites. 6th International Conference Plagiarism Across Europe and Beyond 2020. University of Wollongong in Dubai. 17. p. 57.
- David SA (2017) The internationalization of higher education in the UAE and the implications for undergraduate students' institutional choice for postgraduate studies. Trans: J Transient Migr 1(2):235–250. [https://doi.org/10.1386/tjtm.1.2.235\\_1](https://doi.org/10.1386/tjtm.1.2.235_1)
- Draper M, Lancaster T, Dann S, Crockett R, Glendinning I (2021) Essay mills and other contract cheating services: to buy or not to buy and the consequences of students changing their minds. Int J Educ Integr 17:13. <https://doi.org/10.1007/s40979-021-00081-x>
- Draper MJ, Newton PM (2017) A legal approach to tackling contract cheating? Int J Educ Integr 13:11. <https://doi.org/10.1007/s40979-017-0022-5>

- Eaton, S. E. (2021). Plagiarism in higher education: tackling tough topics in academic integrity. Library of Congress Catalogue-in-Publication Data. Libraries Unlimited. ABC-CLIO, LLC. USA. ISBN 9781440874383
- Eaton SE, Crossman K, Behjat L, Yates RM, Fear E, Trifkovic M (2020) An institutional self-study of text-matching software in a Canadian graduate-level engineering program. *J Acad Ethics* 18(3):263–282 <https://link.springer.com/article/10.1007/s10805-020-09367-0>
- Edarabia (2021). Population of the UAE. <https://www.edarabia.com/population-uae/>
- Ellis C, Zucker I, Randall D (2018) The infernal business of contract cheating: understanding the business processes and models of academic custom writing sites. *Int J Educ Integr* 14(1):1
- ENAI (2018) Academic integrity. In: Glossary of academic integrity. European Network for Academic Integrity <https://www.academicintegrity.eu/wp/glossary/academic-integrity/>
- Gentile, E., Miroudot, S., De Vries, G., and Wacker, K. M. (2020). Robots replace routine tasks performed by workers. VOXEU. CEPR. 8 October 2020. <https://voxeu.org/article/robots-replace-routine-tasks-performed-by-workers>
- Hansen DL, Shneiderman B, Smith MA, Himelboim I (2020) In: Hansen DL, Shneiderman B, Smith MA, Himelboim I (eds) Twitter: information flows, influencers, and organic communities, Ch 11. Analyzing social media networks with NodeXL, 2nd edn, pp 161–178, ISBN 9780128177563. <https://doi.org/10.1016/B978-0-12-817756-3.00011-X>
- Hare J (2019) Letter from Australia: paying the price for cheating. Wonkhe Ltd, UK Accessed 15 Sept 2021. <https://wonkhe.com/blogs/letter-from-australia-paying-the-price-for-cheating/>
- Hill G, Mason J, Dunn A (2021) Contract cheating: an increasing challenge for global academic community arising from COVID-19. *RPTel* 16:24. <https://doi.org/10.1186/s41039-021-00166-8>
- ICAI (2018) Fundamental values of integrity. International Centre for Academic Integrity. [https://academicintegrity.org/images/pdfs/20019\\_ICAI-Fundamental-Values\\_R12.pdf](https://academicintegrity.org/images/pdfs/20019_ICAI-Fundamental-Values_R12.pdf)
- INQAAHE. (2020) Toolkit to support quality assurance agencies to address academic integrity and contract cheating. International Network for Quality Assurance Agencies in Higher Education (INQAAHE). June 2020. <https://www.teqsa.gov.au/sites/default/files/inqaahe-teqsa-qbbg-academic-integrity-toolkit-v1-0.pdf>
- Jacobson M (2015) How far down the search engine results page will most people go? SERP position and CTR – SEO. Leverage Marketing <https://www.theleverageway.com/blog/how-far-down-the-search-engine-results-page-will-most-people-go/>
- Khan ZR (2014) Developing a factor-model to understand the impact of factors on higher education students' likelihood to e-cheat. In: Doctor of philosophy thesis, School of Information Systems and Technology, University of Wollongong, 2014 <https://ro.uow.edu.au/theses/4545>
- Khan ZR, Hemnani P, Raheja S, Joshy J (2020) Raising awareness on contract cheating –lessons learned from running campus-wide campaigns. *J Acad Ethics* 18:175–191. <https://doi.org/10.1007/s10805-020-09365-2>
- Khan ZR, Mumtaz S, Hemnani P, Raheja S (2018) Pilot study to pave way for exploring contract cheating among higher education students in UAE. In: 4<sup>th</sup> international conference plagiarism across Europe and beyond. European Network for Academic Integrity. Canakkale Onsekiz Mart University, and Mendel University, Turkey
- Khan ZR, Mumtaz S, Hemnani P, Raheja S (2019) Whose work is it anyway? Exploring the existence of contract cheating in the UAE context. In: Foltyniek T, Glendinning I, Razi S (eds) Towards consistency and transparency in academic integrity, 1st edn. Peter Lang, Turkey, pp 199–211
- KHDA (2021). About us. Knowledge and human development authority. <https://www.khda.gov.ae/en/Website>
- Khomami N (2017) Plan to crack down on websites selling essays to students announced. Higher Education. The Guardian URL. <https://www.theguardian.com/education/2017/feb/21/plan-to-crack-down-on-websites-selling-essays-to-students-announced>
- Lancaster T (2016) Its not victimless crime – the murky business of buying academic essays. The Guardian <https://www.theguardian.com/higher-education-network/2016/oct/19/its-not-a-victimless-the-murky-business-of-buying-academic-essays>
- Lancaster T (2020) Commercial contract cheating provision through micro-outsourcing web sites. *Int J Educ Integr* 16:4. <https://doi.org/10.1007/s40979-020-00053-7>
- Macrotrends (2021). UAE population 1950–2021. <https://www.macrotrends.net/countries/ARE/uae/population>
- Marr, B. (2019). Artificial intelligence can now write amazing content – what does that mean for humans? Forbes Enterprise Tech. <https://www.forbes.com/sites/bernardmarr/2019/03/29/artificial-intelligence-can-now-write-amazing-content-what-does-that-mean-for-humans/?sh=2835048f50ab>
- Marsh S (2017) Universities urged to block essay-mill sites in plagiarism crackdown. The Guardian: Higher Education <https://www.theguardian.com/education/2017/oct/09/universities-urged-to-block-essay-mill-sites-in-plagiarism-crackdown>
- McKie A (2018) Irish law to clamp down on essay mills 'could be model for UK'. Times Higher Education <https://www.timeshighereducation.com/news/irish-law-clamp-down-essay-mills-could-be-model-uk>
- McKie A (2020) Essay mills targeting students as pandemic crisis shifts HE online. Times Higher Education Accessed 15 Sept 2021. <https://www.timeshighereducation.com/news/essay-mills-targeting-students-pandemic-crisis-shifts-he-online>
- Medway D, Roper S, Gillooly L (2018) Contract cheating in UK higher education: a covert investigation of essay mills. *Br Educ Res J* 44(3):393–418
- Morris EJ (2018) Academic integrity matters: five considerations for addressing contract cheating. *Int J Educ Integr* 14:15. <https://doi.org/10.1007/s40979-018-0038-5>
- Nasrallah T, Cherian D (2021) The next 50: with the new cabinet, UAE reiterates new tools, pillars, and principles for achieving goals. The Gulf News, UAE <https://gulfnews.com/uae/government/the-next-50-with-the-new-cabinet-uae-reiterates-new-tools-pillars-and-principles-for-achieving-goals-1.1632573674234>
- Newstead SE, Franklyn-Stokes A, Armnstead P (1996) Individual differences in student cheating. *J Educ Psychol* 88:229–241
- Newton PM (2018) How common is commercial contract cheating in higher education and is it increasing? A systematic review. *Front Educ* 3:67. <https://doi.org/10.3389/educ.2018.00067>
- Omniconvert. (2020). What is organic traffic. OmniConvert. <https://www.omniconvert.com/what-is-organic-traffic/>

- Patino CM, Ferreira JC (2018) Inclusion and exclusion criteria in research studies: definitions and why they matter. *J Bras Pneumol* 44(2):84. <https://doi.org/10.1590/s1806-37562018000000088>
- QAA (2022) QAA welcomes ban on essay mills in England. News <https://www.qaa.ac.uk/news-events/news/qaa-welcomes-ban-on-essay-mills-in-england>
- Rogerson AM (2017) Detecting contract cheating in essay and report submissions: process, patterns, clues and conversations. *Int J Educ Integr* 13:10. <https://doi.org/10.1007/s40979-017-0021-6>
- Ross J (2021) First blood for Australian contract cheating law. *Times Higher Education* <https://www.timeshighereducation.com/news/first-blood-australian-contract-cheating-law>
- Rowland S, Slade C, Wong K-S, Whiting B (2017) “Just turn to us”: the persuasive features of contract cheating websites. *Assess Eval High Educ*:1–14. <https://doi.org/10.1080/02602938.2017.1391948>
- Search Engine Land (SEL) (2021) What is SEO/ search engine optimization? Search engine land. Third Door Media, Inc <https://searchengineland.com/guide/what-is-seo>
- Shelton K (2017) The value of search results ranking. Forbes Agency Council. Forbes Accessed 15 Sept 2021. <https://www.forbes.com/sites/forbesagencycouncil/2017/10/30/the-value-of-search-results-rankings/?sh=514b873d44d3>
- Shukla A (2021) The UAE – a higher education hub for international students and foreign university branch campuses. The Gulf News, UAE <https://gulfnews.com/uae/education/the-uae---a-higher-education-hub-for-international-students-and-foreign-university-branch-campuses-1.1627982146370>
- Singh S, Remenyi D (2015) Plagiarism and ghostwriting: the rise in academic misconduct. *S Afr J Sci* 112(5/6):Art. #2015-0300. <https://doi.org/10.17159/sajs.2016/20150300>
- Stavisky LP (1973) Term paper ‘mills’, academic plagiarism, and state regulation. *Pol Sci Quart*:445–461. <https://doi.org/10.2307/2148993>
- TEQSA (2021) Legislation – contract cheating. Tertiary Education Quality and Standards Agency, Australia <https://www.teqsa.gov.au/legislation>
- UOW (2021) Why is academic integrity so important? University of Wollongong, Australia <https://www.uow.edu.au/about/governance/academic-integrity/teachers/importance/>
- UOWD (2016) Combatting rising cases of academic dishonesty a need of the hour, say academics. University of Wollongong in Dubai, UAE <https://www.uowdubai.ac.ae/news/international-conference-academic-integrity-set-come-uowd>
- UOWD (2020) University of Wollongong in Dubai Marks regional milestone, hosts international conference on plagiarism across Europe and beyond virtually. University of Wollongong in Dubai, UAE <https://www.uowdubai.ac.ae/news/university-wollongong-dubai-marks-regional-milestone-hosts-international-conference-plagiarism>
- Vel P, Khan ZR (2021) Contract cheating incidents in schools and tertiary learning institutions in the UAE from a social Lens. In: Proceedings for European conference on academic integrity and plagiarism 2021. Uppsala University, Sweden, p 136 [https://academicintegrity.eu/conference/proceedings/2021/book\\_of\\_abstracts2021.pdf#page=136](https://academicintegrity.eu/conference/proceedings/2021/book_of_abstracts2021.pdf#page=136)
- Visentin L (2015) MyMaster essay cheating scandal: more than 70 university students face suspension. The Sydney Morning Herald, Australia <https://www.smh.com.au/national/nsw/mymaster-essay-cheating-scandal-more-than-70-university-students-face-suspension-20150312-14250e.html>. Accessed 15 Sept 2021
- Vision21 (2018) First-rate education system. National Agenda 2021. Prime Minister’s Office, UAE <https://www.vision2021.ae/en/national-agenda-2021/list/first-rate-circle>

## Publisher’s Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

**Ready to submit your research? Choose BMC and benefit from:**

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

**At BMC, research is always in progress.**

Learn more [biomedcentral.com/submissions](https://biomedcentral.com/submissions)

