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Academic Writing in Teaching Research Integrity

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The primary aim of this paper is to present the key elements that characterise online course design, addressing the process of designing, implementing, and evaluating an online course for Bachelor's degree students that focuses on developing their academic writing skills. These skills are essential for university students as they provide the knowledge necessary to express themselves effectively, analyse texts, think critically, cite correctly, and avoid plagiarism. Academic writing is also the foundation for responsible research practice. The Research Integrity Competency Profile Model, which includes four main areas, namely values and principles, research practice, publication and dissemination, and violations, was created prior to the design of the course and the skills students need to acquire at the Bachelor's level for successful academic writing were identified. A small private online course was carefully designed in 2020. It consisted of a variety of assignments, including interactive elements such as quizzes, videos, and work in international interdisciplinary groups. The participants of the course were 36 students from Slovenia, the Netherlands, and the Czech Republic. The course lasted four weeks and covered topics such as literature analysis, writing a research paper, avoiding plagiarism, paraphrasing, and citation styles, among others. The course was launched in 2021 for two consecutive instances. The participating students evaluated the course positively, describing the assignments as motivating, useful, and well-structured. However, they concluded that they need more practice in this area, and we suggest that a university course be established to provide all students with the necessary academic writing skills.

Keywords: academic writing, citation, online teaching, plagiarism, research integrity

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Akademsko pisanje pri poučevanju raziskovalne integritete

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Glavni cilj prispevka je predstaviti ključne elemente, ki so značilni za oblikovanje spletnih tečajev, vključno s procesi oblikovanja, izvajanja in vrednotenja spletnega tečaja za študente dodiplomskega študija, ki se osredinja na razvijanje veščin akademskega pisanja. Te spretnosti so za univerzitetne študente bistvenega pomena, ker zagotavljajo znanje, potrebno za učinkovito izražanje, analizo besedil, kritično razmišljanje, pravilno citiranje in preprečevanje plagiatorstva. Akademsko pisanje je tudi temelj za odgovorno raziskovalno prakso. Model kompetenčnega profila raziskovalne integritete, ki vključuje štiri glavna področja, tj.: vrednote in načela, raziskovalno prakso, objavljanje in diseminacijo ter kršitve, je bil oblikovan pred zasnovo tečaja, pri čemer so bile definirane spretnosti, ki jih morajo študentje pridobiti na dodiplomski ravni za uspešno akademsko pisanje. Leta 2020 je bil skrbno zasnovan manjši zasebni spletni tečaj. Sestavljen je bil iz različnih nalog, vključno z interaktivnimi dejavnostmi, kot so: kvizi, videoposnetki in delo v mednarodnih interdisciplinarnih skupinah. Tečaja se je udeležilo 36 študentov iz Slovenije, Nizozemske in iz Češke. Trajal je štiri tedne in je med drugim obravnaval teme, kot so: analiza literature, pisanje raziskovalnega prispevka, izogibanje plagiatorstvu, parafraziranje in slogi citiranja. Tečaj se je začel izvajati leta 2021 v dveh zaporednih časovnih obdobjih. Sodelujoči študentje so tečaj ocenili pozitivno ter naloge opisali kot motivirajoče, uporabne in dobro strukturirane. Ugotovili so tudi, da na tem področju potrebujejo več prakse, zato predlagamo, da se vzpostavi univerzitetni predmet, ki bi vsem študentom zagotovil potrebne veščine akademskega pisanja.

Ključne besede: akademsko pisanje, citiranje, spletno poučevanje, plagiatorstvo, raziskovalna integriteta

Introduction

Among the many challenges students face, academic writing is widely regarded as one of the most problematic. 'The ability to present ideas and arguments in a clear, concise, and logical manner is a critical skill for academics in all disciplines' (Celik, 2020, p.1). MacArthur and Graham (2016) assert that writing makes substantial demands on students' knowledge, strategies, language, skills, and motivational resources. Academic writing involves a range of skills. First, it is important for students to understand that writing is not only about what is written (the product) but also about how it is written (the process) (Ramadhanti et al., 2019). One key academic skill is communication, including writing, such as report writing and seminar writing (Schillings et al., 2018). Academic writing, at least in contemporary Western society, is 'a distinct style of writing used by those in academia and research communities that is noted for its detached objectivity, its use of critical analysis and its presentation of well-structured, clear arguments based on evidence and reason' (Sultan, 2013, p. 139). Academic writing skills are essential for university students because they provide the knowledge necessary to express themselves effectively, analyse texts, think critically, cite correctly, and avoid plagiarism. All four main types of academic writing (descriptive, analytical, persuasive, and critical) are used when writing an academic paper or assignment. Academic writing must be structured, balanced, precise, objective, and formal. All arguments must be supported by evidence and based on information from experts in the field, so it is important to reference the information appropriately (Smith, 2022). David and Anderson (2022) perceive academic writing as not only fundamental for overall academic success but essential for effective communication in students' future professional lives. They argue that university students need to apply higher-order thinking skills to solve content problems and lower-order thinking skills to learn correct citation techniques.

Many students begin their studies with little or no knowledge of the principles of academic writing and with heterogeneous educational backgrounds that require different methods for teaching complex academic writing skills. Research on academic writing support ranges from the use of exemplars or completed examples to the use of assessment criteria, the implementation of training or instruction, the use of different modes of feedback provision, the role of feedback in revising writing products, the role of self- and/or peer-assessment and the importance of the writing process itself (Sultan, 2013).

Academic writing is also the foundation for responsible research practice. Knowing how to properly cite, paraphrase, interpret the ideas of others,

and credit the original author, as well as the ability to read and summarise critically, are the skills that students need to learn and apply throughout their studies and professional careers. Integrity is related to basic human values such as honesty, trust, fairness, respect, and responsibility (International Center for Academic Integrity, 2021). Integrity is also central to teaching and teacher education. Gradišek (2012) investigated character strengths in in-service and pre-service teachers and determined that integrity was among the highest endorsed strengths, along with fairness, kindness, and love.

Academic writing and research integrity are two important aspects of responsible research practice with which every student should be familiar. During our work at the Faculty of Education, University of Ljubljana, we observed students' problems in dealing with academic writing and research integrity, which was the reason we joined the Erasmus+ Integrity project (academic writing and research integrity in higher education), as part of which we designed online courses for BA students. One of the objectives of the project was better preparation of students to act with integrity during their education and conduct research with integrity upon the level of completion of their education. The other objective was to increase the level of digital teaching skills and the use of digital tools for integrity teaching.

The development of information and communication technology has increased the demand for online learning. However, online teaching redefines the roles of learners and teachers as well as teaching approaches (Hampel & Stickler, 2005). For online instruction to be successful, it is not enough to be technologically proficient. Skills such as facilitating online communication and building community are essential to establishing meaningful communicative interaction within an online learning environment (Compton, 2009). Castrillo (2014) defined the roles of teachers in online instruction as follows:

a) Before course delivery: course designer-developer, content expert and creator, assessment designer and communication tools and structure designer.
b) During course delivery: course facilitator.
c) After course delivery: researcher: analysing the course analytics and course evaluation.

Transactional theory describes the phenomena of online teaching and learning in terms of two variables: *structure*, which refers to the course design and the teaching organisation and *dialogue*, which refers to the level of communication between instructors and students. Within structure and communication, we must consider all three types of interaction: content-student

interaction, student-teacher interaction and student-student interaction (Giossos et al., 2009). All three types of interaction are believed to have a positive impact on learning outcomes; however, well-organised courses are, according to Fern University in Germany and the Open University in the UK, the most important factor for effective learning. Well-organised online courses compensate for the lack of interaction and help students systemise and demonstrate new knowledge (Kim & Kim, 2021). The available literature is univocal about the importance of interaction in online courses; however, the lack of interaction is often the main source of criticism of online learning, since it can make students feel isolated and consequently fail to complete the course. Teachers in online courses are expected to reduce psychological isolation and create opportunities for students to communicate. It is important that the teacher establishes his presence and personality in course content, discussion, and activities. Effective teacher guidance can generate successful outcomes. 'Key factors such as course structure, student–student interaction and the sense of instructor presence strongly influence the level of student satisfaction and achievement in the online learning process" (Kim & Kim, 2021, p.2).

Online learning can take the form of asynchronous, synchronous, or hybrid online learning. Asynchronous online learning is the most appropriate for students because it includes the greatest amount of flexibility for them. There is a schedule and some time frames for assignments, but the advantage is that the activities are accessible 24/7, whenever and wherever they want (Amiti, 2020). The benefits of asynchronous learning also include more critical thinking and constructive feedback because there is more time and less pressure. Other benefits of online learning include better student engagement with course material, more variety, greater student participation, and more convenience (Nguyen, 2015). The principal way of encouraging student-student interaction is the use of online forums, where the entire online community can participate in an intellectual exchange (Carr-Chellman & Duchastel, 2000).

This paper chronicles the process of an online course design, course implementation and course evaluation. The course was part of the Erasmus+Integrity project.[3] The main aims of the process were how to tackle the gap in students' knowledge of academic writing, how to design an online course in academic writing for BA students of various majors in order to include all the competen-

3 The basic aim of the Erasmus+ Integrity project was that students become 'streetwise' when it comes to research integrity, meaning, that they become competent to recognize problematic issues and dilemmas with respect to research integrity, learn how to reflect upon these topics and employ strategies that help them to find solutions, take responsibility for their actions and decisions in specific situations and that they incorporate certain values and dispositions, such as the attentiveness, responsibility and courage that are needed to live up to standards of honesty and integrity in conducting research.

cies necessary for successful academic study and scientific research work and to evaluate how successful an academic writing intervention among university students is.

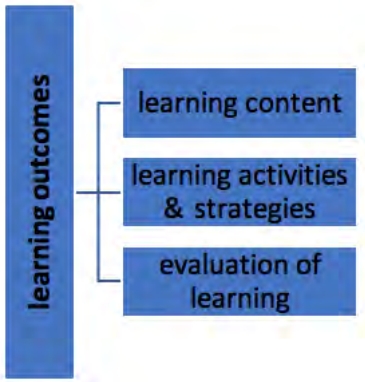
The objectives of the course were: 1) Students know different writing styles (e.g. APA, Chicago Manual, MLA) and are able to use them; 2) Students know elements of a responsible publication (e.g., IMRaD structure); 3) Students know that basic values of research are relevant also in a process of reporting research; 4) Students know what fabrication, falsification, plagiarism and self-plagiarism are (e.g. distinguish between referencing and citation); 5) Students know basic features of academic writing because these were the main problems we observed when working with students, especially when mentoring final assignments.

The entire process lasted from 2019 to 2022, with the course design phase lasting from September 2019 to December 2020, followed by two implementations of the course, the first in January 2021 and the second in November 2021. Each implementation was followed by the evaluation phase, with a more in-depth evaluation at the end of the course. As the course was an innovative intervention in the study programmes of the three universities (University of Utrecht, University of Prague, and University of Ljubljana), our aim was to evaluate the participants' experiences with the course in order to improve it in the future and offer it as an elective online or face-to-face module at the university level.

Course design

The course design process was based on Richards' (2013) backward curriculum design, which starts from the specification of learning outcomes, and methodology and syllabus are developed from the learning outcomes. This approach diagnoses the needs of learners first and carefully determines which activities and instructional processes will lead to the achievement of the learning objectives.

Figure 1
Steps of small private online course (SPOC) design



The designers of the course have attempted to follow the standards of the Quality Matters Program, which was developed in Maryland for designing high-quality online courses. The rubric includes eight standard areas that need to be carefully devised: 1) course overview and introduction, 2) learning objectives, 3) assessment and measurement, 4) instructional materials, 5) learner interaction and engagement, 6) course technology, 7) learner support, and 8) accessibility (MarylandOnline Inc., 2011). The course overview and introduction were part of the first learning unit, in which the moderators and the participants introduced themselves, and the participants had the opportunity to see the structure of the course and to become acquainted with the learning environment. The learning objectives were aligned with the assessment techniques and the instructional materials. Learner interaction and engagement were encouraged through collaborative tasks, course technology was provided by the expertise of the Elevate Online Academy learning environment, learner support was facilitated by the e-moderators, and the course was made accessible to the students at the three universities. The following chapters present the most important design phases of the online course.

Course objectives

The main objective of the course was that the students would learn how to write an academic paper. The course goals were aligned with the following learning outcomes set in the *Competency Profile for Teaching and Learning Research Integrity* for BA-level students (Selan et al., 2021, pp. 24–25):

1. Within the ***area of values and principles***, bachelor students are able to

recognise research integrity as an integral part of research practice, and they develop the skills necessary to do study and research consistent with research integrity.

2. Within the ***area of research practice***, bachelor students are able to 'collect and interpret relevant data in their research area to make judgements consistent with research integrity'.
3. Within the ***area of publication and dissemination***, students are able to 'communicate information, ideas […] about their research consistent with research integrity'. They are able to 'define and explain the difference between skimming, scanning, intensive reading and extensive reading and apply them in their writing'. They are able to 'recognise the skills needed to write an academic paper' and 'to identify and differentiate among various styles of writing'. They are able to 'identify and explain the structure of an academic paper (abstract, introduction, body, and conclusion) and elements of responsible publication and apply them in writing', … 'recognise different citation styles and apply knowledge of citation (citation styles, in-text citation, and end-of-text citation) in their writing, [they] know how to find information from reliable sources, [and] are able to write about a topic by analysing sources and literature'. They are able to 'distinguish between paraphrasing and quoting […] and make a proper citation or paraphrase'.
4. Within the ***area of violations***, they are able to 'define and distinguish plagiarism, identify different types of plagiarism, and identify ways to avoid plagiarism'.

Based on the academic writing literature review and the learning outcomes in the *Competency Profile for Teaching and Learning Research Integrity* (Selan et al., 2021), we formed the following course aims:

- ***developing academic writing skills,*** i.e., applying critical reading skills; understanding why academic writing skills are needed; recognising the skills needed to write an academic paper; knowing and demonstrating the difference between intensive and extensive reading; understanding and selecting reliable internet sources and identifying and describing the structure of an academic paper;
- ***developing analytical writing,*** i.e., defining and writing a summary; identifying analytical writing; and listing the structure of a research paper;
- ***understanding plagiarism,*** i.e., understanding why avoiding plagiarism is important; knowing when we need to cite; knowing how to avoid

plagiarism; evaluating and using paraphrasing strategies; using reference verbs in paraphrasing; evaluating and creating paraphrases;

- ***using citation properly,*** i.e., understanding why using correct citation is important; recognising different citation styles and distinguishing among them; using in-text and end-of-text citations appropriately; creating a reference list; getting to know online tools for creating a reference list.

The course aims were set according to the key skills of academic writing, which encompass the following: 1) the ability to scan research text efficiently to locate relevant information; 2) note-taking and summarising skills; 3) the ability to synthesise material from various sources; 4) an understanding of ethics in writing and the avoidance of plagiarism, and 5) competence in citation and referencing standards (Celik, 2020; Trzeciak & Mackay, 1994).

Participants in the course design

The course design process involved three content experts who were also performing the role of the course moderators. The content experts were trained in online moderation through two online courses prior to the course implementation. The main goal of the course was to teach the moderators how to facilitate the learning process by stimulating and encouraging participants to interact with each other and keep pace with the course. Another area of e-moderation training was learning netiquette, meaning the proper way of communicating online. Special emphasis was placed on providing feedback to students using forum posts, summarising, weaving, feedback, and reflection (Elevate Online Academy, n.d.).

The design process was supported by the Elevate Online Academy, a Netherlands-based but global organisation with a high level of expertise in online teaching, particularly in MOOC and SPOC courses. The learning platform for the course delivery was set up within the Elevate Online Academy learning environment. It was decided that a small private online course (SPOC) would be more appropriate than a massive open online course (MOOC). A SPOC is a more localised version of a MOOC; it is designed for smaller groups, and because it is perceived as a supplement to classroom teaching, it usually increases student engagement and achievement (Gielen, 2016). It is also more commonly used in university settings (Guo, 2017).

Course content

Online courses are usually divided into stages and series of models or learning units (Trentin, 2001). We formed a team of subject matter experts to

define the suitable structure to pursue our learning objectives. In accordance with the essential academic writing skills for university students (the knowledge necessary to express oneself effectively, analyse texts, think critically, cite correctly, and avoid plagiarism), we divided our course content into five units. Many authors (including Carr-Chellman & Duchastel, 2000; Ozcan-Deniz, 2018; Trentin, 2001) suggest setting weekly learning outcomes; therefore, we based the learning outcomes and the course content on weekly topics. The weekly topics were as follows: 0) Introduction, 1) The skills needed for academic writing, 2) Analytical writing and research paper, 3) Plagiarism, and 4) Citation.

Learning Unit 0 (LU0) was the introductory unit in which students learned about the course itself and its content and introduced themselves in a short video or written presentation. Students were asked to upload either a short text or video in which they had to complete the sentence 'I am motivated to follow this course, and I commit to follow this course because...'. In doing so, they could refer to their positive and/ or negative personal experiences with the academic writing and research integrity topic in their discipline and outline their expectations for the course.

Learning Unit 1 (LU1) focused on the basic skills of academic writing, as students are required to produce written work during their studies, and this also affects their professional development (Chokwe, 2013). The topics in this unit were aligned with the above course objectives (developing academic writing skills) and focused on the skills students need to write an academic paper, critical reading, the structure of an academic paper, and using reliable internet sources.

Learning Unit 2 (LU2) focused on analytical writing, which requires students to re-organise facts and information. The topics in this unit were aligned with the course objectives above (developing analytical writing) and focused on summary writing and analysing the structure of a research paper.

Learning Unit 3 (LU3) dealt with plagiarism, as it is the most common problem in academia, especially with the increasing use of the internet. Even though several plagiarism detection software tools are available, it remains important to recognise what plagiarism is and how to avoid it (Borg, 2000). The topics in this unit were aligned with the above course objectives (understanding plagiarism), within which students developed their skills of correct paraphrasing.

Learning Unit 4 (LU4) focused on proper citation. After reading scientific articles, students must be able to integrate the information into a new intellectual statement, one that 'explicitly recognises the contribution of other

writers' (Borg, 2000, p. 27). The topics in this unit were aligned with the above course objectives (using citation properly), within which students developed their proper citation skills.

Course activities and materials

Students need to have an overview of the course objectives and activities so they can plan their weekly study load. We used the following activities from the Elevate Online Academy teaching online toolbox.

Table 1

Course activities in the online course on academic writing (adapted from Elevate Online Academy, n.d.)

Read/watch /listen	Individual	Social Interaction	Collaboration
reading material video/web lecture glossary	written assignment quiz	polls post a remark peer feedback chat questions and answers	discussion forum Google docs glossary

Because many studies (e.g., Croxton, 2014; Hawkins et al., 2013; Song et al., 2019, among others) confirm that increased performance and high learner participation in online courses can be achieved through active learner participation and well-designed interaction activities that encourage students to communicate with each other as well as with the moderators, we wanted to focus on activities that raise social interaction and collaboration among participants, as seen in Table 1. One of these activities that was almost always present was peer feedback because providing it requires students to actively consider the assessment criteria (Huisman et al., 2018). When students participate in polls, post a remark, give feedback to each other, chat, post responses in discussion forums and work collaboratively on a shared online document or glossary, they are more likely to follow the discussion or read each other's work and log into the virtual environment more frequently.

We also aimed for a variety of tasks in each unit to keep the activities engaging and prevent them from becoming monotonous. The units generally began with some input information, either by reading, watching, or listening, which was followed by activities that checked students' comprehension of the topic and its application, either done individually or in social interaction or collaboration with others. The learning activities that included students collaborating on a task in pairs or small groups had to be planned more carefully

and announced at the beginning of the course so that students had ample time to schedule a synchronous online meeting.

Some examples of tasks:

Figure 2

Example of an individual written assignment from the online course on academic writing (Elevate Online Academy, n.d.)

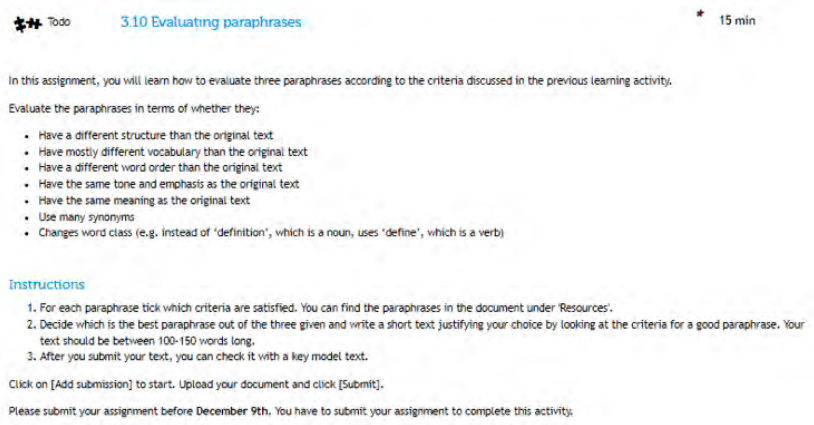


Figure 3

Example of a social interaction activity from the course on academic writing - post a remark (Elevate Online Academy, n.d.)

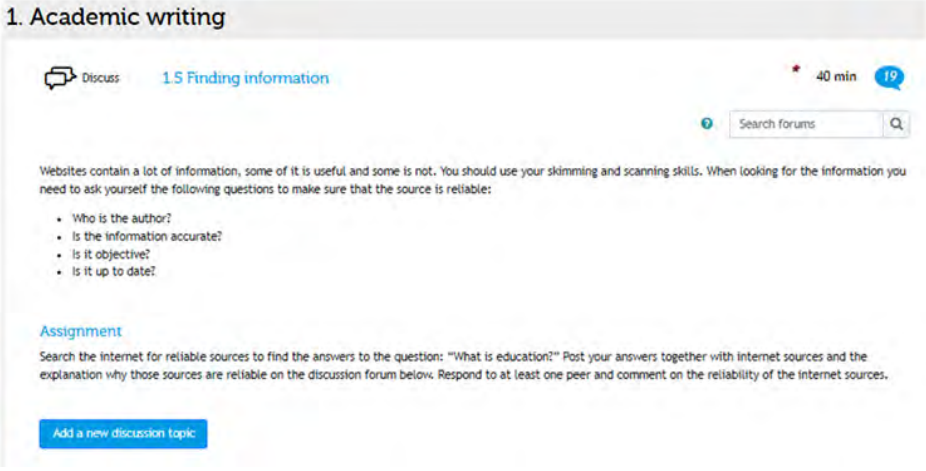
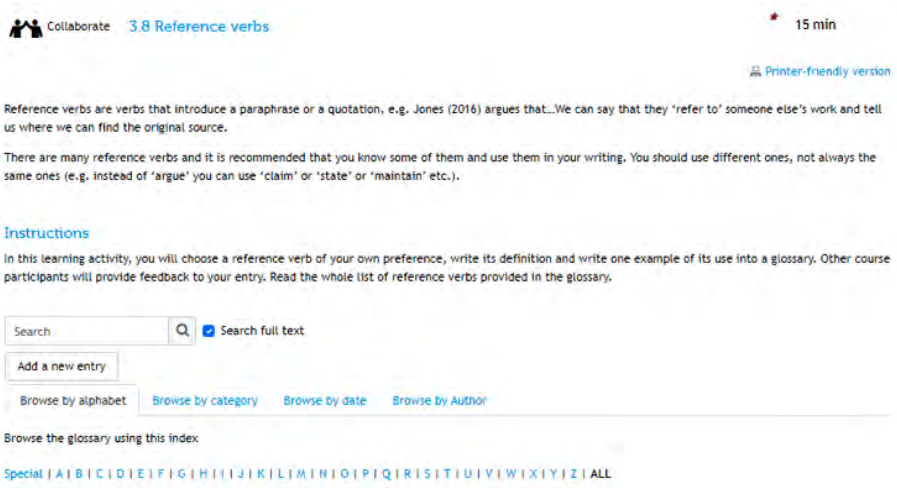


Figure 4
Example of a collaboration activity from the course on academic writing (Elevate Online Academy, n.d.)



When designing an online course, developers must align learning activities with learning outcomes (Sewell et al., 2010). Students' knowledge needs to be formatively assessed to foster their autonomy and improve their understanding of the content. Sewell et al. (2010) suggested that assessment techniques in online courses be based on the six levels of Bloom's Taxonomy. They proposed the following online assessment techniques accordingly:

Table 2
Online assessment techniques (Sewell et al., 2010)

Bloom's Taxonomy Level	Examples of assessment techniques
remember	flashcards, quizzes, games
understand	simulations, animations, tutorials
apply	simulations, instructional games, case studies
analyse, evaluate, create	case studies, multiple choice questions

We decided to follow this model in creating assessment tasks for the online academic writing course and included the following assessment techniques in the course: flashcards, quizzes, simulations, case studies, and multiple-choice questions to assess different levels of knowledge.

Course implementation

The participants in the course implementation were 36 students at the bachelor level from the University of Ljubljana, Slovenia (23); the University of Utrecht, the Netherlands (10); and the University of Prague, the Czech Republic (3). The students were either in their 2nd or 3rd year of study (20–22 years old). Their study programmes varied; all the Slovenian students (23) were primary education students studying at the Faculty of Education, two Czech students were English majors, whereas one was a biology student. The students from the University of Utrecht were studying computer science (4), biology (2), mathematics (3) and neurobiology (1). Thirty-two participants (88.9%) were female, and only four (11.1%) were male.

Kreie et al. (2017) write that the first step in an online course is to inform students about registration, the syllabus, and communication. After emails were sent with registration details and the participants registered, we launched the course by sending a welcome email and announcement, initiating a class-wide introduction, and asking students to read the course information. It is important to first explain the requirements for the online course and the technical requirements and to inform students of the expectations, weekly study load, and important deadlines. In the introductory unit, the students introduced themselves; Xi & Li (2020) pointed out that getting to know each other is a successful strategy for building a learning community, especially in asynchronous learning in which students do not need to be online at the same time, and social interaction is not immediate.

Online learning communities are described as offering social and emotional support and facilitating learning through collaboration and cooperation. There is no universally accepted definition for the term 'social presence'; however, we can describe it as the ability to participate personally and authentically (Lander, 2015). Lander (2015) found that social presence in online learning can be achieved through 1) affective responses (e.g., self-disclosure, humour, emoticons, etc.), 2) cohesive responses that build and sustain group commitment (e.g., use of salutations, vocatives, inclusive pronouns, and talking about weather and health, etc.), and 3) interactive responses (e.g., asking questions, continuing a thread, referring to the content of participants' postings, praising, expressing appreciation, quoting the words of other participants, etc.). Most of these strategies were used by the moderators throughout the course. The participants received a welcome email at the beginning of each week/unit. The email included a brief introduction to the unit and a prompt to begin the lessons. As mentioned above, we used various forms of social interaction, like

polls, posting a remark, peer feedback, chats, and questions and answers. Peer feedback is frequently applied in higher education and is considered beneficial to students' writing as 'it stimulates them to actively consider the task-specific processes and criteria' (Huisman et al., 2018, p. 956). Similarly, communicating through online discussion forums provides students with the opportunity to express their thoughts and discuss topics in more detail. They also feel more comfortable and flexible since they do not feel pressured to respond to questions or comments immediately and have more time to think about their response (Xi & Li, 2020).

In addition to peer feedback, moderator feedback is also important to the intensity of participation. According to self-determination theory, 'positive feedback works at the self-level and at the self-regulation level and should increase participation intensity' (Camacho et al., 2019, p. 143). Positive feedback increases participants' goal commitment. We used announcements to post welcome notes and notes with brief insights into the goals of the learning unit that was ending. Each lesson included a discussion forum, where participants answered specific questions, commented on the lesson, or commented on other posts. The moderators were always part of this discussion and provided personal feedback to the participants. Some posts were visible to all participants, but we also used individual posts, which had only one author. As Lander (2015) explains, moderators 'tread a fine line between ensuring the correct knowledge is constructed on the one hand and maintaining the sense of community and not exposing individual students to embarrassment on the other' (p. 113). It is essential to manage the delicate matter of assessment in a public manner. The single most powerful influence on performance is feedback (Huisman et al., 2018; Schillings et al., 2018). We used appreciation and engagement to refer to knowledge provided by individuals in posts. The moderator sets the parameters for community membership and participation, such as how, when, and what can be posted, and positions students as online learners who are aware of others in the discussion, adjust their contributions to provide opportunities for others to contribute and observe the boundaries set by the moderators (Lander, 2015).

Course evaluation

As many authors have noted (Pretz, 2014; Soffer & Cohen, 2019), one of the main problems with online learning is the low completion rate of online courses. The average completion rate is between 5–15% (Bui, 2022). Similarly, for the academic writing course, there were 30 applicants in January 2021 and 44 applicants in November 2021, altogether 74. More students would apply,

showing strong interest in the course topic, but the number was limited to maintain the quality of feedback given to the students. The first course was successfully completed by 17 students (15 from the University of Ljubljana and 2 from the University of Prague). The second course was completed by 19 students (8 from the University of Ljubljana, 1 from the University of Prague and 10 from the University of Utrecht). Of the 36 students who attended the two implementations of the online course on academic writing, 24 submitted the final course evaluation after finishing the course. They evaluated different areas of the course, specifically its content, the learning materials and activities, e-moderation, the learning environment, the study load, and the course in general.

Evaluation instruments

Two different questionnaires were designed for the purpose of course evaluation. One was used at the end of each unit, and the final evaluation of the course was done after the participants had completed all four units. The end-of-the-course questionnaire contained different categories related to 1) content, 2) e-moderation, 3) learning environment, 4) study load, 5) general. In the first content category, the participants gave an overall mark for the course content on a scale of 1 to 10 and provided suggestions regarding the content of the course and the accompanying learning activities and materials. In the second e-moderation evaluation, the participants rated on a scale from 1 (very bad) to 5 (very good) the quality of the e-moderators' messages, the e-moderators' encouragement, the quality of help and the speed of the response. Again, they provided suggestions regarding the e-moderation in an open-ended question. As regards the third learning environment category, the participants gave an overall mark for the learning environment on a scale of 1 to 10 and made suggestions for improving the e-learning environment. Within the fourth study load category, the participants evaluated the amount of the study load (too little - just enough - too heavy) and indicated the number of hours they spent on the entire course. In the last category, the participants were asked about their course expectations before the start and to what extent the course met their expectations (yes - no - partially). They had to justify the last answer in an open-ended form.

Participation in the end-of-the-course survey was voluntary and anonymous. The questionnaires were part of the online course (both for each unit and for the whole course); however, the moderators could only see the responses without the participants' names. The unit evaluation questionnaires were administered at the end of each unit (each week), and the end-of-the-course evaluation was administered at the end of the course (Week 4).

Content validity was established by a panel of four international experts, who contributed valuable feedback on the questionnaires and the scope of the questions. Consultation was also provided by the instructional designers from the Elevate Online Academy, with extensive professional experience in course design and evaluation. The open-ended questions were analysed using content analysis, and a quantitative approach was used to analyse the closed questions. The results of the evaluation are mainly presented in the form of tables with frequencies, mean values, and ranking.

Evaluation

First, students had to give an overall mark for the course on a scale from 1 to 10.

Table 3

Overall assessment of the course

Mark	f	f%
6	1	4%
7	3	13%
8	5	21%
9	8	33%
10	7	29%
Total	24	100%

As shown in Table 3, the majority of the students assessed the course with a mark of 9 (8 participants), followed by a mark of 10 (7 participants) and a mark of 8 (5 participants). Thus, the average mark of the course was 8.7.

When asked for suggestions regarding the content of the course, most of the participants had none and were satisfied with the course content as it was designed; some of them wished for more activities within the course and the extension of the content. One student wrote down: 'I'd like it even more if I had more chances to collaborate and work with other students. I really liked the idea in the last part, where we had to write a summary together. It is always a challenge to work with people you hadn't worked with before, and it is a great opportunity to develop certain competences as well.'

When asked for suggestions regarding the learning materials and activities, most students did not provide any or wrote they were satisfied with them and found them useful, interesting, and varied, which they found motivating.

They said the materials and activities were appropriate to their level of knowledge and well structured.

As regards the e-moderation, the participants had to rate the quality of the messages, the encouragement, the quality of the help, and the speed of the response of the e-moderator on a scale of 1 to 5 (1 – very bad, 2 – bad, 3 – neutral, 4 – good, 5 – very good).

Table 4

Evaluation of the e-moderation of the course

Statements	1	2	3	4	5	Average
The quality of the messages of the e-moderator.	1		1	9	13	4.4
The encouragement of the e-moderator.	1		2	7	14	4.4
The quality of the help of the e-moderator.	1		4	5	14	4.3
The speed of the response of the e-moderator.	1	1	3	5	14	4.25

Table 4 shows that most of the moderation areas received an average rating of 4.4 or 4.3. Most participants rated e-moderation with the highest grade (i.e., 5). The student who selected the lowest grade for the e-moderation explained in his/her response that he/she missed more specific comments in one task, and the two lowest grades for the speed of the response were related to late feedback that students received due to a technical issue in the course. When asked for specific recommendations for the e-moderator, most participants did not offer any suggestions, or they wrote that all moderators were 'encouraging, clear and helpful' and that the moderators' feedback was 'positive'. One student wrote: 'I really liked it when we received an email when a new week started. I also liked it very much that there were some motivational words - that always lifts me up and encourages me to do the work I have to do.' This last feedback demonstrates the importance of regular feedback and reminders given to students related to their coursework. Croxton (2014) proposes a framework for online course interactivity that incorporates elements of social cognitive theory, interaction equivalency theorem, and social integration theory to facilitate meaningful learning and encourage students to persist in the course. She adds that student-instructor interaction is a key variable in online student satisfaction and persistence (Croxton, 2014).

The participants also marked the learning environment on a scale from 1 to 10.

Table 5
Evaluation of the learning environment

Mark	f	f%
7	1	4%
8	3	12%
9	10	42%
10	10	42%
Total	24	100%

Most students rated the learning environment with the two highest scores, 9 or 10 (84% overall). One student rated it 7, and three students rated it 8. When asked for suggestions for the e-learning environment, again, most students had no suggestions; some wrote that it was 'very comprehensive', 'not hard to use and attractive at sight', and 'well structured'. One student wrote, 'At first, I was quite confused with this environment because I've never used Elevate before. But over time, I got used to it'. Two students also wrote that they liked 'the chance to interact with other participants of the course' and that they were able to 'do assignments whenever [they] could in those seven days'. As other authors have pointed out (Lander, 2015; Xi & Li, 2020), one of the main advantages of asynchronous online learning is that students can work at their own pace at any time and from any location.

The participants assessed whether the study load was 'too little - just enough - too heavy'. Twenty-one students (87.5%) described the study load as 'just enough'. None of the participants assessed it as 'too little' and three (12.5%) evaluated the study load as 'too heavy'. When designing the course, it is difficult to predict how extensive some assignments will be; moreover, students work at different paces; for example, someone may complete the same task in half the time it takes another. Nevertheless, the study load seemed reasonable for most students. The students also needed to indicate how many hours they spent on the course. The number of hours varied widely (see Table 6).

Table 6

The number of hours the students spent on the course on academic writing

Study load – hours	f	f%
5	1	4.2%
6	1	4.2%
8	2	8.2%
9	2	8.2%
10	2	8.2%
11	1	4.2%
12	4	17%
14	2	8.2%
15	5	21%
17	1	4.2%
18	1	4.2%
30	2	8.2%
Total	24	100%

The course was designed for a study load of 2.5 hours per unit/week; in total, we anticipated that students would need approximately 10 hours to complete the course. As shown in Table 6, a few students managed to complete the course in less than 10 hours (6 students or 25% of them). The majority of students required between 10 and 15 hours (58.6%), with most of them selecting either 15 or 12 hours. A few students needed more than 15 hours, and two students chose 30 hours, which is three times more than planned during the design process. On average, the students spent 13.4 hours on the course, or 3.4 hours more than planned. As Kember (2004) discussed in his study, the perception of workload can be very personal and is not always synonymous with the amount of time spent working. It is influenced by the content, level of difficulty, type of assessment and relationships with other students and the teacher (Kember, 2004).

In the last set of questions, the students were asked about their expectations prior to the course and to what extent those expectations were met. Most students listed the development of their (academic) writing skills as the most important expectation. They wrote that their 'expectations were to get to know more about academic writing and to get more comfortable in writing in English in general', to learn more about 'citing and writing academic papers', to

learn 'how to structure academic writings and how to do proper referencing'. Someone also wrote, 'I didn't have any expectations. I just wanted to practise my English.'

When asked whether the course met their expectations, 16 students (67%) answered 'yes', and 8 students (33%) answered 'partially'. No one selected the answer 'no' from the three options given. The students gave different reasons for their answers: Most wrote that they feel more confident in their writing, for example, 'The course met my expectations because we learned a little about writing texts, but also how important it is that we know how to cite and quote, in order to avoid plagiarism. I am pleased that this course has managed to exceed my expectations'. A few of them also reported that the knowledge they gained in the course will be useful to them in their future studies and in writing their final thesis. Some students commented on the variety of the assignments that they had to complete, for example, 'I liked completing all the tasks and reading texts. Those were way more interesting than I expected ….'. Another added, 'I think it's really important that we had to do some assignments by ourselves, not only read or do tests.'. Two students also mentioned the benefits of learning English through the course, 'I was connected to the language. And what I appreciated the most was that we collaborated with other students. I was pushed to English :)'. A few students concluded in their final remarks that they had gained some knowledge but needed more practice in this area.

Conclusion and recommendations

The purpose of this paper was to present the process of designing, implementing, and evaluating an online academic writing course. The course was aligned with the learning outcomes for research integrity defined in the *Competency Profile for Teaching and Learning Research Integrity* (Selan et al., 2021). Designing and implementing an online course is a complex process that requires expertise from multiple domains (i.e., content, pedagogy, and technology). In our case, the content involved research integrity and academic writing; the pedagogy included selecting appropriate materials, creating engaging tasks, designing suitable assessment techniques, and moderating the course. Technology primarily consisted of online communication skills and technological literacy.

The overall results of the course evaluation indicate that students were very satisfied with the course, giving it an average grade of 8.7. They praised the variety and engagement of the activities, especially those that required them to collaborate. Several researchers reported that interaction has a significant

impact on student satisfaction, learning and retention in online learning (Kim & Kim, 2021). The participants were satisfied with the moderation of the course and the positive attitude of the moderators. Positive feedback increases participants' confidence to successfully develop and refine their knowledge, and it also increases their goal commitment. Furthermore, supportive feedback enables them to internalise the goal and stay motivated to pursue it (Camacho et al., 2019). The students were also satisfied with the learning environment, which they felt was very comprehensive, not difficult to use, attractive, and well structured. A learning environment that is not user-friendly may hinder the learning process and discourage students from persisting in the course. Even though the study load was perceived to be higher than planned (3.4 hours on average), most students indicated that it met their expectations, and they increased their knowledge of academic writing. They also pointed out that they would like more practice in this area. We recommend that a similar course be incorporated into their degree programme as an elective. All students, regardless of their study programmes, are required to write texts that are clear, well-structured, objective, and critical. In addition, they must properly cite and reference other sources. Learning these skills should be an integral part of all degree programmes. Not only will this provide students with academic success, but it will also be of great benefit in their future careers.

There are two major limitations to this paper that should be addressed in future research. First, the small sample size may influence the results of the course evaluation. We recommend implementing the course in a variety of study programmes; however, we strongly recommend maintaining small group sizes as feedback and interaction are of much better quality when there are not too many students in a group. Second, a different methodology (e.g., interviews) would provide more in-depth students' views of the course, its merits, and shortcomings. Based on students' constructive feedback, the course could be improved and repeated. Nevertheless, we believe that the processes of course design, implementation and evaluation presented in this paper can be beneficial to course designers and moderators. Its strength lies in its overview of careful planning, the importance of regular and positive feedback, and the inclusion of engaging and collaborative assignments in online courses.

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