

Bridging the Gap: The Development of Argumentative Skills in Italian Higher Education. A National Case Study

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Abstract

Argumentative skills are central to persuasion, problem-solving, and self-advocacy, all abilities connected with developing a critical and personal perspective on information. Despite their relevance, argumentative approaches are not always systematically integrated in Higher Education (HE). This research examines the case of Italian HE institutions by analysing the syllabi of 133 courses from 47 public universities through stratified random sampling. The analysis investigates the presence and relevance of argumentative skills across learning objectives, teaching activities, and assessment practices. Findings revealed a limited and often fragmented inclusion of argumentative skills, frequently reduced to general comprehension and communication abilities, with weak alignment across curricular components. While references to argumentation are present, they often lack depth and coherent pedagogical integration. These findings point to the need for a more intentional and structured approach to developing argumentative skills, including a reconsideration of current curriculum design and a clearer integration and alignment of argumentation and critical thinking within teaching and assessment practices.

Keywords: argumentative skills, critical thinking, higher education, syllabi analysis, Italian context.

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1. Introduction

The advent of new media (Balaban-Sali, 2012), followed by data-driven digital systems (Raffaghelli, 2018; Raffaghelli & Stewart, 2020) and AI-mediated systems (Bozkurt et al., 2023; Lund & Wang, 2023), has transformed how individuals understand and communicate information (Colombo, 2018; Cortiana, 2017). Over time, the foundational literacy has expanded to include competencies related to the challenges of postmedia (Rivoltella, 2020) and postdigital reality (Knox, 2019; Jandrić et al., 2024; Raffaghelli, 2024). This new concept also fosters critical thinking within the modern online ecosystem, enabling individuals to engage effectively with societal complexity and become active citizens (Carmi et al., 2020).

Despite these rapid changes, promoting argumentative skills remains crucial in formal and informal education (Colombo, 2018; Wambsganss et al., 2020; Crudele & Raffaghelli, 2023). Without them, navigating today's complex and dynamic information becomes increasingly difficult (Scolari, 2019; Cortiana, 2017), with individuals at risk of misinformation and algorithmic manipulation (Raffaghelli, 2017; Dwi & Purwati, 2022). One might become isolated within an *information filter bubble* (Filter bubble, 2024), exposed only to increasingly polarised viewpoints and deprived of constructive engagement with alternative perspectives. Argumentative and critical thinking thus become fundamental to learning and personal development, particularly within higher education (HE), where the aim is to shape individuals capable of contributing innovatively to society. Yet defining argumentative skills is far from straightforward: from the ability to construct theories, justifications, counterarguments, and rebuttals (Kuhn, 1991), to a three-tier framework of metacognitive, meta-strategic, and epistemological competence (Rapanta et al., 2013), this multidimensional construct encompasses far more than general communication or critical thinking – enabling learners to go beyond mere performance toward collaborative problem-solving and active democratic participation (Iordanou & Rapanta, 2021; Wambsganss et al., 2020). Cultivating these competencies requires not only reading and deconstructing arguments (Calvani et al., 2009) but also developing deeper cognitive engagement with today's digital reality (Frau-Meigs, 2019; Ranieri et al., 2024). An adequate educational response is needed to strengthen independent thinking and to support future critical thinkers of our world. In this perspective, HE institutions are increasingly called upon to foster argumentative skills actively and to integrate these competencies not merely as implicit expectations, but as explicitly designed and assessable components of teaching and learning practices.

2. Background

Solid preparation remains a concern, considering the persistent difficulty young people face in fully developing basic skills like reading and comprehension (Moretti, 2010).

In March 2010, the European Commission presented the New Europe Strategy 2020, proposing among the eight parameters provided that the percentage of low-achieving 15-year-olds in reading, mathematics, and science should be less than 15% (European Commission, 2020). In Italy, INVALSI data from 2015 and 2018 revealed that 20-21% of 15-year-olds failed to reach the second level of reading and comprehension on the PISA scale, remaining below the international average (5.7%), with recent OECD data confirming a similar trend (INVALSI, 2015, 2018, 2022). Failure to reach this level meant being able only to recognise familiar words in a simple text and to establish meanings related to reading. This result has led to reflection on an education that still needs improvement, especially in the acquisition of the essential skills for individual and social realisation (INDIRE, 2011).

The situation is similar for university students. The gap appears to carry over significantly from high school into the first years of university, potentially affecting key stages of student life. Consider the TEst of Competencies (TECO) survey, launched by ANVUR in 2012 to provide information on the consistency between university course objectives and the skills developed (Corsini, 2020). The most recent TECO 2020/2021 results revealed statistically lower scores in literacy and numeracy among first-year university students (ANVUR, 2020), confirming persistent difficulties in understanding, interpreting, and critically reflecting on information – challenges that cannot be taken for granted, especially in today's context.

Although designed to measure competencies, the TECO survey has faced criticism for its inability to adequately reflect the different academic and socio-cultural aspects of soft skills development (Corsini, 2020). Standardized instruments assess complex skills – such as critical reading and argumentation – with too few items to capture their full complexity, and risk conflating research with administrative objectives at the expense of educational quality (Lucisano, 2016). These limitations point to the need for complementary assessment approaches, such as student portfolios and formative evaluations, to better capture a picture of soft skills (Corsini, 2020). This echoes broader concerns about large-scale educational assessments and their policy-making implications (Biesta, 2015). The literature advocates shifting from a competitive ranking approach toward ensuring quality education for all (Raffaghelli & Grion, 2023). In this sense, quality in HE increasingly depends on faculty's willingness to critically revisit teaching programmes and

assessment criteria through ongoing curricular renewal, understood as a professional and institutional practice rather than a response to external evaluation pressures (De Rossi & Fedeli, 2022). Meaningful educational change requires faculty engagement in reflective curricular design, as well as deliberate pedagogical strategies to make transversal skills such as critical thinking and argumentation explicit, supported, and assessable within course design.

Building on this framework, this study addresses a specific gap: while national data document persistent difficulties in students' reading comprehension and critical skills, it remains unclear to what extent argumentative skills are intentionally and systematically integrated into Italian university curricula – a question that standardised assessments are ill-equipped to answer. By mapping current teaching practices, we aimed to identify the presence and intensity of argumentative skills in university curricula, with implications for faculty development and curriculum design.

3. Methods

3.1 Aim and Research Question

Our study is based on a national case study (Hamilton et al., 2013) using syllabus analysis to map teaching practices related to argumentative skills across Italian HE. The syllabus – also known as the course sheet or programme – is the first artefact that students encounter and live as their first general impression of the course (Yarosh, 2021). In addition, as a comprehensive information document, it is also the first educational-didactic tool that can engage and motivate students to undertake the teaching and contextualise it from the perspective of their preparation (Serbati et al., 2021). It contains key teaching information, including learning objectives, skills to be achieved, tasks and assessment strategies (Romero-Hall & Li, 2020), reflecting the intentional choices faculty make regarding which competencies are valued and how they are expected to be developed (Tino, 2022). Far from a mere bureaucratic requirement, the “promising syllabus” (Bain, 2004) is the space in which faculty build their pedagogical commitment to students, making explicit the mutual responsibilities in the teaching and learning process (Serbati et al., 2022). As public documents, syllabi serve as “unobtrusive yet powerful indicators of what happens in the classroom” (Serbati et al., 2022) and have been used in both international and national research to investigate teaching and assessment practices. Their scope is nonetheless limited to faculty's stated intentions rather than the practices subsequently enacted in the classroom – a

constraint inherent to this type of document-based analysis. Its critical analysis, therefore, demands sustained pedagogical attention, particularly in relation to the explicit design and alignment of transversal competencies within course structures (De Rossi & Fedeli, 2022). This syllabus analysis examines the curricula of pedagogical and educational science courses with regard to the presence and relevance of argumentative skills for students’ personal and academic success. In this way, it addresses the following research question (RQ): *To what extent are argumentative skills covered in Italian university courses in terms of teaching and learning objectives?*

3.2 Research Design

Stratified random sampling was chosen, dividing the reference population into subgroups based on specific characteristics and selecting samples randomly within each stratum, to ensure proportional representation and the study’s representativeness (Viganò, 2002).

Italian universities were stratified by specific criteria (public, presence of education science and pedagogy departments); polytechnics were also excluded. These criteria progressively reduced the initial pool of 93 universities to a final sample of 47. For each relevant degree programme (bachelor’s, master’s, and single-cycle), one syllabus was randomly selected, yielding 133 syllabi in total.

Table 1 provides a full breakdown of the sampling and retrieval procedure, including dataset variables and manual collection adjustments. The codebook, the dataset and all R files are available in open access on Zenodo (Crudele & Raffaghelli, 2024).

Table 1 - Overview of the Sampling and Data Retrieval Procedure

Phase	Activities	Procedure/Criterion	Result/Data
Sampling	Stratified Sampling	Public Italian universities; presence of Education Science and Pedagogy departments	93 universities → 69 public universities
	Exclusion criteria	Polytechnics and universities without relevant departments. Private universities excluded	3 polytechnics + 19 universities excluded

	Final university sample	Universities included in the study	47 universities
	Programme selection	Bachelor's, Master's, and single-cycle degree programmes in pedagogy	One syllabus randomly selected per programme
	Total syllabi collected	Final corpus before filtering	133 syllabi
Retrieval and Coding Research Units	Dataset variables	Values recorded in Excel	University, geographical area, department, teaching macroarea, degree type, course, syllabus, URL
	Automated retrieval	Web crawling and scraping using R	Automated extraction from university URLs
	Manual retrieval adjustments	PDFs manually added	28 syllabi
		Privacy-restricted syllabi manually inserted	30 syllabi
		Drop-down embedded syllabi manually collected	23 syllabi
	Pre-processing	Text cleaning and conversion	Corpus converted to .txt
	Keywords identified	Italian and English terms related to argumentative skills and critical thinking	10 keyword expressions
	Text-mining filtering	Documents containing selected keywords isolated	92 texts retained from 133

Web crawling and web scraping techniques, supported by R software, facilitated automated syllabus retrieval from university websites; cases requiring manual intervention are detailed in Table 1. The R script then, starting from the investigated URLs, extracted and organized the corpora into folders, followed by pre-processing, text cleaning operations, as well as textual manipulation and conversion to .txt documents.

The keywords identified across corpora were defined: ‘comprensione’ (comprehension), ‘comprensione del testo’ (text comprehension), ‘understanding’, ‘comprehension’, ‘argumentative skills’, ‘capire’ (understand), ‘capire il testo’ (understanding text), ‘pensiero critico’ (critical thinking), ‘sviluppo pensiero’ (develop thinking) and ‘abilità argomentative’ (argumentative skills). Both Italian and English terms were used, as some syllabi were bilingual.

Using text-mining techniques, only documents containing selected keywords were isolated, resulting in 92 texts out of 133. This analytical strategy allowed for a focused and replicable identification of explicit references to argumentative skills within the corpus. It is acknowledged, however, that the absence of specific keywords does not necessarily imply the absence of related practices or objectives, a nuance addressed through subsequent qualitative analysis. Data were compiled into a single corpus and analyzed at two levels: a) quantitative textual analysis (word frequency, co-occurrences and topic modelling approach); b) qualitative content analysis conducted with NVIVO (<https://ritme.com/it/software/nvivo/>).

A topic analysis (TA) was conducted using a coding scheme based on Biggs’ (2003) “Constructive Alignment” (CA) concept, closely related to the design of syllabi in HE courses. This approach ensures that all elements of a course – learning objectives, learning activities, and assessment methods – are coherent and integrated to maximise student learning.

Following Biggs’s CA (2003) framework, the codebook was structured into three macro-categories:

- Detection: Presence of argumentative skills in syllabi, and the treatment level at which the references are addressed (learning objectives, expected learning activities, and expected assessment methods);
- Alignment: Degree of alignment between argumentative skills and course objectives, activities, and assessment;
- Connection to the course: Rationale behind the inclusion of argumentative skills, exploring potential insights into their role within the curriculum. Categories are codified in Table 2.

Table 2 - Codebook qualitative analysis of syllabi

Code	Subcodes	Subcodes 2	Description
Detection (Detecting the presence and value of references to argumentative skills in syllabi)	Presence of references to argumentative skills	Yes	Presence or absence of references to argumentation and the development of argumentative skills.
		Partial	
		No	
	Level of treatment	Teaching	Relevance to argumentative skills in the context of educational goals is identified.
		Learning	A relevance to argumentative skills in the area of learning activities (to pursue learning objectives) is identified.
		Assessment	A relevance to argumentative skills is identified in assessment methods.
Alignment (Alignment of discussion of argumentative skills from course objectives and expected learning outcomes to assessment)	Level of Alignment	Complete	Argumentative skills are traced in the structuring of the syllabus or course from the objectives and expected outcomes to the modes of verification.
		Partial	Argumentative skills are traceable only in some sections of the syllabus.
		Absent	Argumentative skills are not sufficiently present in the sections that make up the syllabus.
	Consistency Level	Very consistent	Three descending levels of consistency were found regarding the
		Slightly consistent	

	Not at all consistent	alignment of argumentative skills with the course.
Course Connection (Motivations for developing and increasing argumentative skills and some original insights related to them)	Motivations	Motivations that emerge and can be traced in the treatment of argumentative skills.
	Originality	Some original insights that connect to the treatment of argumentative skills.

4. Results

As a first step, Table 3 presents the demographic and distribution information of the sample. Cases were more prevalent in the centre and the north, while southern universities were more difficult to reach due to poor website usability. Pages were often missing, and syllabi sometimes required direct contact with university offices.

Most syllabi referred to bachelor's and master's degrees (75% of the total cases). Regarding the 'macro thematic area of teaching', departmental courses were grouped under three umbrella terms, summarizing the characteristics of the teachings considered: 1) 'Education' (pedagogy, didactics and areas related to teacher education); 2) 'Social sciences', (human behaviour, economics, politics and social psychology); and 3) 'Humanities' (history, language studies, literature, philosophy, theology and other disciplines focused on humanity and cultural heritage).

The sample polarised towards humanities (53%) and education (28%), with a focus on educational and pedagogical areas, but also teaching covering philosophy, deontology, psychology and law.

Table 3 - Percentages of distribution by geographical area, degree course, and subject area of teaching

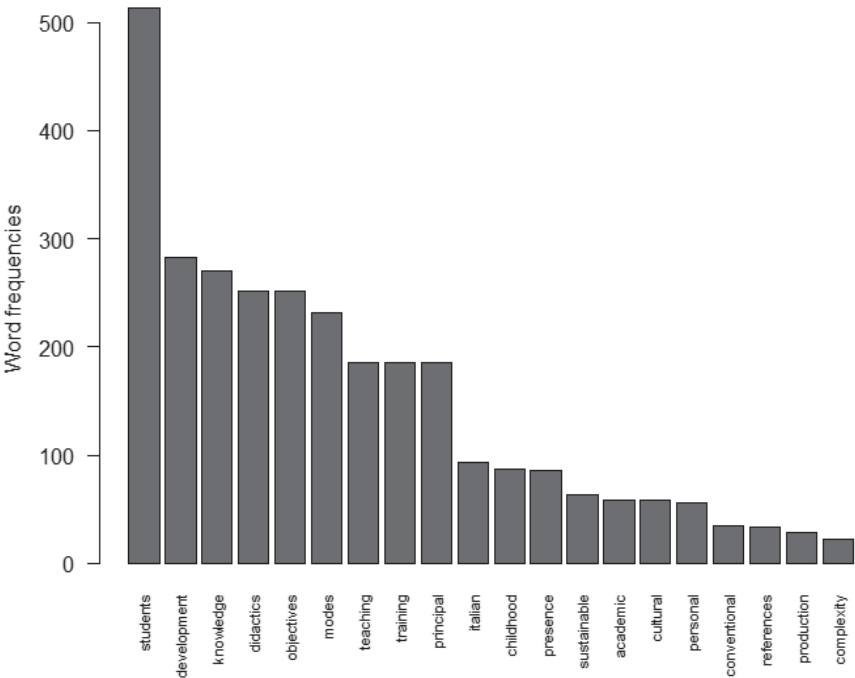
Category	Indicators	Values	%
Geographic Area	Northeast	31	23%
	Northwest	28	21%
	Centre	38	29%
	Southeast	14	10%
	Southwest	22	17%
Degree Course	Bachelor's	50	38%
	Master's	49	37%
	Single-cycle	34	25%

Macro Subject Area of Teaching	Education	13	28%
	Social Sciences	9	19%
	Humanities	25	53%

4.1 Quantitative Analysis of the Text

The 20 most frequent words (with 8 characters and at least 5 occurrences) are visible in the frequency graph (Figure 1) and word cloud (Figure 2).

Figure 1. Frequencies of the 20 words used most frequently in the corpus. More relevant words: ‘students’, ‘development’, ‘knowledge’, ‘didactics’, ‘objectives’, ‘modes’, ‘teaching’, ‘training’, ‘principal’, ‘Italian’, ‘childhood’, ‘presence’, ‘sustainable’, ‘academic’, ‘cultural’, ‘personal’, ‘conventional’, ‘references’, ‘production’, ‘complexity’



The most frequent words were in Italian. The English translation of each term will be placed in parentheses, while those already in English will not be translated. The word *studenti* (students) was the most prominent, reflecting the syllabi’s central focus. *Modalità* (modality), *sviluppo* (development), *conoscenze* (knowledge) and *obiettivi* (objectives), pointed to teaching modalities, extending to more deeply related aspects of teaching, such as skills

development and formative goals (*obiettivi* [objectives], *formativi* [formative] and *didattica* [teaching]).

Figure 2 - Word cloud of the 20 words used most frequently in the corpus. More relevant words: 'students', 'development', 'knowledge', 'didactics', 'objectives', 'modes', 'teaching', 'training', 'principal', 'Italian', 'childhood', 'presence', 'sustainable', 'academic', 'cultural', 'personal', 'conventional', 'references', 'production', 'complexity'



Less frequent words provide further details: for example, *personale* (personal) and *presenza* (attendance) suggested the importance of students' active participation in classes; or *produzione* (production) and *contributo* (contribution) referenced academic production, such as essays, projects or research, an integral part of courses. We then turned to the number of occurrences of the keywords: *comprensione* (comprehension, 237 times), *capire* (understanding, 9), *argomentativa* (argumentative, 14), *argomentare* (argue, 18), *argomentazione* (argumentation, 9), *understanding* (32) and *comprehension* (1 time).

Understanding-related terms appeared far more frequently than argumentation-related ones, as they function as umbrella terms encompassing broader information-processing references.

Topic modelling through Latent Dirichlet Allocation (LDA) to identify hidden topics within a corpus of documents, 20 topics (10 keywords each) were identified. From here, common themes emerged: 1) Education and teaching: *studenti* (students), *insegnamento* (teaching), *capacità* (skills) and *pedagogia* (pedagogy); 2) Assessment and knowledge: *valutazione* (assessment), *conoscenza* (knowledge) and *comprensione* (understanding); and 3) Teaching tools and methodologies: *strumenti* (tools), *modalità* (modalities), *laboratorio* (laboratory) and *attività* (activities). Some keywords recurred across multiple

topics, suggesting overlapping themes, such as those emerging from *studenti* (students).

Building on this initial framing of the content trend, subsequent qualitative analyses were used to clarify remaining ambiguities.

4.2 Qualitative Analysis of the Text

In the following, we present the result of the codes derived from the research's conceptual framing: assessing the presence of references to the use, development, and relevance of argumentative skills for undergraduates (as shown in Table 4).

Table 4 - NVivo labelling codes

Name	Description	Files	References
Detection	Detection of the presence and value of reference to argumentative skills in syllabi.	77	186
Presence of reference to argumentative skills	Presence or absence of references to argumentation and the development of argumentative skills.	69	79
Yes		7	7
Partial		38	38
No		32	34
Treatment level	Structural level of the syllabus within which argumentative skills are integrated.	60	107
Teaching	Relevance of argumentative skills in the area of learning objectives is identified.	24	35
Learning	A relevance to argumentative skills in the context of learning activities (to pursue learning objectives) is identified.	20	25
Assessment	A relevance to argumentative skills is identified in assessment methods.	45	47
Alignment	Alignment of discussion of argumentative skills from course objectives and expected learning outcomes to assessment	59	97
Level of Alignment	Level of completeness of the alignment identified in the syllabus.	54	60

Complete	Argumentative skills can be traced in the structuring of the syllabus or course from the objectives and expected outcomes to the modes of verification.	1	1
Partial	Argumentative skills are traceable only in some sections of the syllabus.	26	28
Absent	Argumentative skills are not sufficiently present in the sections that make up the syllabus.	29	31
Level of coherence	Three descending levels of consistency found regarding the alignment of argumentative skills with the course.	35	37
Very consistent		17	17
Slightly consistent		12	12
Not at all consistent		8	8
Course Connection	Motivations for developing and increasing argumentative skills and some original insights related to them	1	1
Motivations	Motivations that emerge and can be traced in the treatment of argumentative skills.	1	1
Originality	Some original cues that connect to the treatment of argumentative skills.	0	0

4.2.1 Detection: Detecting the presence and value of reference to argumentative skills in syllabi

Regarding the presence or absence of references to argumentative skills, the prevalence of coding focused on ‘partial’ and ‘no’. Starting with the latter indicator, which concerns the absence of references to argumentative skills, it was noted that although the keywords inherent to knowledge and ‘understanding’ were used, only references to the acquisition of concepts and useful literature for the course were traced in most of the contributions. For example: ‘Knowledge and understanding of the key points of developmental psychology’; ‘introduce students to the understanding and deepening of the main contributions made by psychology to the issues of work dynamics’.

In other cases, when references did emerge about the criticality of such an approach to developing these skills, these references were hardly contextualised. For example, declinations of the concept appeared with unclear phrases: ‘Knowledge and understanding: oriented toward critical decoding with the aid of the humanities; possession of tools peculiar to literary criticism is not required’ or ‘a space for reflection and real understanding of, for example, the concept of talent, competence, human capital and the future’.

In the majority of cases where a ‘partial’ reference was found, other keywords outlined earlier also emerged: ‘argumentation’, ‘argumentative’, and arguments. However, the word ‘argument’ was used as a mere synonym for ‘concept’ and ‘topic of study’ and not as a stimulus for reflection: ‘...acquire scientific literature related to topics of psychological interest’.

Interestingly, however, a consistent focus was on detecting communication skills as a starting point for reflecting on and reframing learning. There was frequent mention of ‘develop[ing] communication skills that allow for small- and large-group discussion of the knowledge acquired’ or ‘at the end of the course you should demonstrate the ability to independently formulate, and express, critical, reflective and meaningful evaluations of the topics covered’.

Although many references remained locked in the development of purely communicative skills, ‘effectively and clearly communicate course content and objectives’, a first glimmer of reconnection to more critical and personal learning also emerged. Indeed, some contributions mentioned techniques for understanding and ‘interpreting’ new contexts: ‘Through the key categories of pedagogy, the student will be able to understand and interpret the new educational challenges related to childhood and nonformal education’ and ‘learning skills such as the ability to critically use different sources of knowledge and use them critically in different areas of intervention’. Yet it was not explained in what declination this acquisition of interpretive and argumentative mastery should take place. Thus, there still seemed to be a lack of contextualisation of ‘how’ to accompany and guide the ‘production’ of ‘opinions’.

Only seven contributions provided a clearer reference to argumentation as a practice ‘to argue one’s own position and to reframe and interpret that of others’ or even to ‘move critically within these theoretical and empirical perspectives and realise useful reflections in applying such knowledge to one’s own social reality’.

However, there was little distinction between the concepts of ‘communication’ and ‘argumentation’, for example, speaking of the ‘acquisition of description and synthesis skills and use of appropriate psychological vocabulary’. The same applies to the concepts of ‘argumentation’ and ‘expression of judgment’, a purely philosophical concept inherent in formulating an impression about reality from social and non-social constructs: ‘Autonomy of judgment, understood as the ability to produce independent judgments from the interpretation of a database’.

Regarding the distinction based on the level of treatment within the syllabus structure, it was observed that many of the references identified were located in the assessment component. In fact, a strong connection emerged between the concepts of argumentation, comprehension, and the ability to communicate

effectively, which were identified as core elements for the final course examination: 'Linguistic mastery: the ability to express oneself clearly, the mastery of specialised language, the correctness and effectiveness of argumentation' and 'the expository clarity and critical skills developed during the course'.

Despite the many references to critical skills or 'argumentative skills on the topics addressed', everything seemed to refer to the ability to 'articulate discourse' or 'sustain[ing] an argumentation' during the oral test, the predominant mode in these syllabi: 'The final examination will consist of an oral interview in which the ability to expound clearly and succinctly, with supervised mastery of relevant vocabulary, the contents and problems of a literary text and the ability to place it in a correct historical perspective, developing personal reflections will be ascertained'. However, the steps to be followed during the course in preparation for the assessment were not clearly specified, revealing limited attention to the argumentative components that needed to be developed.

Turning to the other two levels, concerning the concept of 'teaching', in terms of learning objectives, the reference to 'understanding' emerged related to 1) the acquisition of concepts for 'reframing one's point of view' ('the student will be able to express a personal point of view on a case, based on a theoretical perspective from among those previously studied'; 'The student should be able to devise and support arguments, based on concrete examples drawn from the studies conducted') and 2) the process of 'integrating' the theoretical knowledge learned for future professional practices ('Operate functional analysis, synthesis, and critical thinking to correlate one's training with the professionalism to be exercised in work environments').

Thus, the predominant goals seemed to converge towards promoting the analysis and interpretation of literature to nurture one's 'critical thinking'.

Turning, however, to 'learning' and thus to activities to pursue the proposed objectives, few references emerged to support this process. The main activities designed to achieve the objectives and provide a comprehensive assessment of processes of understanding and critical elaboration were, in fact, largely reduced to activities of 'presentation', 'discussions', 'group work' and 'practical exercises'. Some contributions mentioned a 'dialogical and laboratory approach' or practices in which 'students will be cyclically called upon to give oral expositions on some of the major issues to assess analytical and critical skills' or even 'dialectical and interactive lectures based on discussion moments; viewing documentaries related to the issues in question and debate; seminar meetings with experts and members of associations'. While these activities are potentially valuable, they remain poorly

contextualized and lack dedicated tasks to scaffold and structure the development of dialogue and debate.

4.2.2 Alignment: Alignment of the treatment of argumentative skills from course objectives and expected learning outcomes to assessment

Regarding the level of alignment identified in the treatment of argumentative skills across the syllabi corpus, a “partial” and, in particular, “absent” level of alignment was most frequently observed between the different structural sections.

Starting from the ‘partial’ level, the syllabi can be described in terms of varying degrees of coherence. Among them, some syllabi emerged that, although lacking references across all three structural components, still maintained a ‘very consistent’ level of alignment. For example, in one contribution, among the skills to be matured was ‘being able to apply acquired knowledge, in particular [to] be able to reflect and problematize’, which was then reflected in assessment phase focused on ‘articulation, precision and meaningfulness in acquired theoretical content; personal critical reworking of content; ability to present, argue and synthesise the constructs covered’.

In most partially aligned cases, a clear connection was consistently present between the skills intended for students and the assessment process. However, all references ultimately converged on what had previously been defined as ‘expository skills’, ‘oral retelling skills’, or even ‘the ability to argue connections to course topics’. Once again, the initial notion of a critical position – moving from conceptual understanding to its reworking – appeared to be reduced to a narrow contextualisation within the course itself. Among the syllabi classified as ‘absent’ in terms of alignment, some still showed a ‘very’ high coherence.

This was because, although references to argumentation were not systematically distributed across all three structural sections, the final evaluation included the assessment of the ‘ability to argue and accurately make connections with the course topics’, which were amply justified by the broader course aims: ‘the acquisition of skills and knowledge to deal with professional problems’ and ‘provide students with the fundamental knowledge to be able to broaden the contextualisation of problems in the social profession’.

The remaining syllabi with little or no coherence were characterized by an increasing lack of clear and precise connections between course content and assessment. Among the objectives, for example, references were made to concepts such as ‘clarity of expression and synthesis skills’ as well as ‘argumentative relevance; exhaustiveness of the treatment’, while providing no moment of assessment of these dimensions. In some cases, planned ‘peer

feedback' activities focused on evaluating elements of student presentations such as 'adequacy of the steps developed, relevance of the actions and sequence, relevance of the sources used, completeness of the proposed path, ability to work in groups'.

Only in one case a 'complete' level of alignment was found in the syllabus structure: in the 'teaching of Ethnohistory' at the University of Palermo. Here, the stated objectives aimed to 'develop an autonomous measure of evaluation on cultural facts and events' linked to the need to 'search for information to deepen what has been covered in the lecture', to 'be able to devise and support arguments, based on concrete examples drawn from the studies carried out'. Classroom activities were well matched with these objectives, and students would be expected to 'report in the classroom on topics developed from personal interests or at the direction of the teacher'. Some justification was offered for this: 'At the end of the course, the student should be able to argue his or her own views by critically supporting his or her own point of view with language properties and terminological precision'.

Finally, the assessment process was also aligned, focusing on 'the maturation of the student's critical and reflective capacity and active participation in the lessons through questions, scheduled interventions, summaries, summarising expositions and short in-depth discussions'.

4.2.3 Course connection: Motivations for developing and increasing argumentative skills and some original insights related to them

Regarding this concept, only one reference was identified across the syllabi analysed. The course 'Theories of Man and Practices of Power in the Modern Age', from the Department of Historical Studies of the University of Turin, explicitly mentions the aim of providing and developing 'critical tools to understand and critically read historical evolution'. It also offers a minimal justification for this objective, namely that 'The general educational objective is to enable the student to understand why the universal notion of being human in a contemporary liberal society is not an a-historical fact, but rather the product of a centuries-long evolution that has involved multiple actors and different philosophical and religious views'.

In the remaining syllabi in which references to argumentative and related skills were identified, no further insights emerged regarding the motivations for developing these competencies, nor were alternative or original perspectives offered that might stimulate reflection on their role.

5. Discussion and Conclusion

This paper has provided an overview of the analysis conducted on Italian university syllabi to assess the presence and relevance of argumentative skills. Starting from the assumption that alternative forms of teaching and assessment are needed to capture cross-curricular competencies (Corsini, 2020; Lucisano, 2016), syllabi were considered as comprehensive frameworks of key teaching information, including learning objectives, intended skills, learning activities, and assessment strategies (Romero-Hall & Li, 2020).

The initial quantitative analyses revealed a conceptual and terminological emphasis on students and educational objectives, suggesting that syllabi function not only as informational documents but also as tools oriented towards instructional approaches and skill development. Keyword analysis showed that ‘understanding’ appeared 237 times, significantly more than ‘argumentative’ (14 times) and ‘argue’ (18 times). This suggests that comprehension is broadly represented but less directly connected to notions of argumentative skills, which receive limited explicit attention.

The subsequent NVivo thematic analysis provided a more in-depth understanding of this terminology usage. Despite frequent references to ‘understanding’, in fact, most syllabi focused on the acquisition of disciplinary content and relevant literature rather than explicit references to argumentative skills. Even where a critical orientation to argumentation was present, it was rarely contextualised: ‘argument’ was often used as a synonym for ‘concept’ or ‘topic of study’, rather than as a process of exchange and justification of viewpoints.

Moreover, drawing on Biggs’s CA (2003) framework, the observed misalignment between learning objectives, teaching activities, and assessment was considered questionable. Argumentative skills were mentioned but not systematically integrated into teaching practices or assessment design. Overall, coherence across structural components appeared limited, as if a foundational framework linking conceptual understanding to critical re-elaboration and communication was still lacking. In several cases, final assessment required students to be able to ‘reflect and problematize’ or produce a ‘personal critical reworking of content’, without corresponding objectives or scaffolding learning activities. Some ‘innovative approaches’ – such as interdisciplinary projects and collaborative activities – aimed at fostering a more cross-curricular perspective were identified, suggesting educators recognise the importance of these skills for students. Nevertheless, further conceptual refinement and pedagogical structuring are needed. Decontextualised from coherent instructional design, such practices may be insufficient to effectively support argumentation teaching and learning. A predominantly mnemonic and purely

transmissive approach is no longer adequate, particularly when information is widely accessible and needs to be critically questioned (Koçoğlu & Kanadli, 2024).

Regarding limitations, the focus on education and training sciences, while necessary to maintain ecological coherence of the research, as well as to ensure that the findings were applicable and relevant to the specific context investigated, excluded other disciplinary areas. Concentrating on this disciplinary group from the initial design phase helped reduce variability and control for confounding factors, supporting more robust and context-specific conclusions.

A further limitation concerns the geographical distribution of the sample: 44% of universities are in the North, 29% in the Centre, and 27% in the South of Italy. This imbalance was mainly due to difficulties in accessing syllabi from Southern universities, often linked to less functional institutional websites, potentially introducing sampling bias. Nonetheless, findings can still be cautiously generalised, as Northern and Central universities represent a substantial portion of the Italian HE system and may still reflect broader national patterns.

In summary, Italian university syllabi revealed a strong initial focus on students' competencies, with a high frequency of terms related to educational objectives and teaching methods. However, the relatively limited presence of explicit references to argumentative skills suggests the need for greater attention to these essential competencies. Strengthening the aligned integration of argumentative skills, alongside the adoption of innovative pedagogical practices, could foster more meaningful curricular development in this area. These findings align with key critical issues identified in students' processes of understanding and knowledge reconstruction. The structural misalignment observed reflects an ongoing lack of systematic training in argumentative and critical skills, essential for navigating contemporary information environments. Moreover, instructors require structured support not only to recognise the pedagogical value of these competencies – already implicitly acknowledged, given the existing references – but also to translate this awareness into coherent course design, from learning objectives to assessment. Such skills should be treated not as an occasional “medication”, but as a “functional supplement” throughout the entire educational path. This shift requires moving beyond sporadic training initiatives toward sustained institutional investment in educators' capacity to design curricula in which these competences are made explicit, scaffolded, and assessable.

Future research could extend these findings by conducting comparative studies across Italian regions, enabling a more balanced exploration of potential regional variations in teaching practices and in argumentative skills integration.

A longitudinal analysis could be done comparing the 2023–2024 dataset with more recent ones, to identify possible changes in the way argumentative skills are conceptualised into courses over time. Further investigation might explore disciplinary contrasts, particularly between education sciences and STEM fields, where different epistemological traditions may influence the presence and treatment of argumentative and critical skills. Attention could also be given to the difficulties faculty encounter in drafting syllabi effectively, exploring how targeted training and institutional support could improve the quality and coherence of curricular documentation. Finally, future studies could examine the growing impact of artificial intelligence in HE and how its presence and use influence students' comprehension processes, argumentative development, and critical thinking competences.

Together, these directions aim to capture a more comprehensive understanding of argumentative development. Ultimately, such efforts converge on a central goal: bridging the gap between implicit expectations and explicit teaching practices, ensuring that HE equips students with the critical tools necessary to navigate an increasingly complex world.

References

- ANVUR (2012). *TECO: Test sulle competenze*. <https://www.anvur.it/teco/>.
- ANVUR (2020). *La rilevazione TECO 2020*. <https://www.anvur.it/attivita/ava/teco-test-sulle-competenze/rilevazioni-teco/la-rilevazione-teco-2020/>.
- Bain K. (2004). *What the best college teachers do*. Harvard University Press.
- Balaban-Sali J. (2012). New media literacies of communication students. *Contemporary Educational Technology*, 3(4): 265-277. Doi: 10.30935/cedtech/6083.
- Biesta G. (2015). Resisting the seduction of the global education measurement industry: Notes on the social psychology of PISA. *Ethics and Education*, 10(3): 348-360. Doi: 10.1080/17449642.2015.1106030.
- Biggs J. (2003). *Teaching for quality learning at university*. Society for Research into Higher Education & Open University Press.
- Bozkurt A., Xiao F., Lambert S., Pazurek A., Crompton H., Koseoglu S., Farrow R., Bond M., Nerantzi C., Honeychurch S., Bali M., Dron J., Mir K., Stewart, B. Stewart B., Costello E., Mason J., Stracke C., Romero-Hall E., & Jandric P. (2023). *Speculative futures on ChatGPT and generative artificial intelligence (AI): A collective reflection from the educational landscape*, 18(1): 53-130. Doi: 10.5281/zenodo.7636568.
- Calvani A., Fini A., & Ranieri M. (2009). La competenza digitale nella scuola. Modelli teorici e strumenti di valutazione. *International Journal of Developmental and Educational Psychology*, 4: 299-308.
- Colombo A. (2018). Il testo argomentativo: Presupposti pedagogici e modelli di analisi. In: A. Colombo (Eds.). *I pro e i contro* (pp. 59-84). La Nuova Italia.

- Commissione Europea (2020). *Digital education action plan 2021-2027: Resetting education and training for the digital age*. European Education Area. <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>.
- Corsini C. (2020). I Test TECO sulle competenze in università: problemi e prospettive. *Pedagogia Più Didattica*, 6(1). Doi: 10.14605/PD612004.
- Cortiana P. (2017). Multimodalità e scrittura tradizionale a confronto: Un intervento nella scuola secondaria. *Italian Journal of Educational Technology*, 25(3). Doi: 10.17471/2499-4324/915.
- Crudele F., & Raffaghelli J. E. (2023). Ripensare le mappe argomentative nei nuovi contesti multimodali: Una revisione narrativa della letteratura. *Media Education*, 14(2). Doi: 10.36253/me-13801.
- Crudele F. & Raffaghelli J.E. (2024). *Argumentative Skills in Higher Education: An analysis of university course Syllabus*. [Data set]. Zenodo. <https://zenodo.org/doi/10.5281/zenodo.13255690>.
- Danielsson K., & Selander S. (2021). Working with multimodal texts in education. In: K. Danielsson & S. Selander (Eds.), *Multimodal texts in disciplinary education. A comprehensive framework* (pp. 25-43). Springer. Doi: 10.1007/978-3-030-63960-0_4.
- De Rossi M. & Fedeli M. (2022). *Costruire percorsi di faculty development*. Pensa Multimedia.
- Dwi H., & Purwati O. (2022). Improving students' critical thinking through guided discovery learning method in argumentative texts reading. *ELS Journal on Interdisciplinary Studies in Humanities*, 5(4): 701-705. Doi: 10.34050/elsjish.v5i4.24826.
- Filter bubble (Accessed August 12, 2024). *Wikipedia*. https://en.wikipedia.org/wiki/Filter_bubble.
- Frau-Meigs D. (2019). Information disorders: Risks and opportunities for digital media and information literacy?. *Medijske Studije [Media Studies]*, 10(19): 10-28. Doi: 10.20901/ms.10.19.1
- Hamilton L., & Corbett-Whittier C. (2013). Defining case study in education research. In: L. Hamilton & C. Corbett-Whittier (Eds.). *Using case study in education research* (pp. 1-18). SAGE Publications. Doi: 10.4135/9781473913851.
- INDIRE (2011). *Insegnare a leggere in Europa: Contesti, politiche e pratiche – Eurydice Italia*. Commissione Europea-Eurydice. <https://eurydice.indire.it/pubblicazioni/insegnare-a-leggere-in-europa-contesti-politiche-e-pratiche/>.
- INVALSI (2015). *Indagine OCSE PISA 2015: I risultati degli studenti italiani in scienze, matematica e lettura*. https://www.invalsi.it/invalsi/ri/pisa2015/doc/rapporto_PISA_2015.pdf.
- INVALSI (2018). *Risultati OCSE-PISA 2018*. https://www.invalsi.it/invalsi/ri/pisa2018.php?page=pisa2018_it_07.
- INVALSI (2022). *OCSE PISA 2022 I Risultati degli studenti Italiani in matematica, lettura e scienze*. https://invalsi-areaprove.cineca.it/docs/2024/Indagini%20internazionali/RAPPORTI/Rapporto_nazionale_PISA2022_.pdf.

- Iordanou K., & Rapanta C. (2021). "Argue With Me": A Method for Developing Argument Skills. *Frontiers in Psychology*, 12. Doi: 10.3389/fpsyg.2021.631203.
- Jandrić P., MacKenzie A., & Knox J. (2024). Postdigital research: Genealogies, challenges, and future perspectives. *Postdigital Science and Education*, 6(2): 409-415. Doi: 10.1007/s42438-022-00306-3.
- Koçoğlu A., & Kanadli S. (2024). Effect of argumentation-based instruction on student achievement: A mixed-research synthesis. *Asia Pacific Education Review*. Doi: 10.1007/s12564-024-09945-6.
- Knox J. (2019). What does the 'postdigital' mean for education? Three critical perspectives on the digital, with implications for educational research and practice. *Postdigital Science and Education*, 1(2): 357-370. Doi: 10.1007/s42438-019-00045-y.
- Kuhn D. (1991). *The Skills of Argument*. Cambridge University Press.
- Lucisano P. (2016). La misura delle misure e la validità educativa. *Italian Journal of Educational Research*, 16: 59-70. <https://ojs.pensamultimedia.it/index.php/sird/article/view/1775>.
- Lund B., & Wang T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries?. *Library Hi Tech News*, 40(3). Doi: 10.1108/LHTN-01-2023-0009.
- Moretti G. (2010). Lucia Lumbelli (2009). La comprensione come problema. Il punto di vista cognitivo. Roma - Bari: Laterza. *Journal of Educational, Cultural and Psychological Studies (ECPS Journal)*, 1(2). <https://www.ledonline.it/index.php/ECPS-Journal/article/view/121/97>.
- Raffaghelli J. E. (2017). Data Literacy in the context of Big and Open Data: An educational challenge. *Formazione & insegnamento*, 15(3): 299-324. Doi: 10.7346/-fei-XV-03-17_21.
- Raffaghelli J. E. (2018). Educators' Data Literacy: Supporting critical perspectives in the context of a «datafied» education. In: M. K. Borges, L. Menichetti, & M. Ranieri (Eds.). *Teacher education & training on it between Europe and Latin America* (pp. 91-109). Aracne Editrice. Doi: 10.4399/97888255210238.
- Raffaghelli J. E., & Stewart B. (2020). Centering complexity in 'educators' data literacy' to support future practices in faculty development: A systematic review of the literature. *Teaching in Higher Education*, 25(4): 435-455. Doi: 10.1080/13562517.2019.1696301.
- Raffaghelli J. E., & Grion V. (2023). Beyond Just Metrics: For a Renewed Approach to Assessment in Higher Education. In: J. E. Raffaghelli & A. Sangrà (Eds.). *Data Cultures in Higher Education: Emergent Practices and the Challenge Ahead* (pp. 89-121). Springer International Publishing. Doi: 10.1007/978-3-031-24193-2_4.
- Raffaghelli J. E. (2024). *(Post)Digital Scholarship. Professionalità accademica e trasformazione tecnologica in università. Manoscritto 2.0*. Pensa Multimedia. <https://www.pensamultimedia.it/libro/9791255681205>.
- Ranieri M., Cuomo S., & Biagini G. (2024). *Scuola e intelligenza artificiale*. Tascabili Faber.
- Rapanta C., Garcia-Mila M., & Gilabert S. (2013). What is meant by argumentative competence? An integrative review of methods of analysis and assessment in

- education. *Review of Educational Research*, 83(4): 483-520. Doi: 10.3102/0034654313487606.
- Rivoltella P. C. (2020). *Nuovi alfabeti. Educazione e culture nella società post-mediale*. Scholè.
- Romero-Hall E., & Li L. (2020). A Syllabi analysis of social media for teaching and learning courses. *Journal of Teaching and Learning*, 14(1): 13-8. Doi: 10.22329/JTL.V14I1.6246.
- Scolari C. A. (2019). Dalla alfabetizzazione mediatica all'alfabetizzazione transmediale. *DigitCult. Scientific Journal on Digital Cultures*, 37-46. Doi: 10.4399/97888255263184.
- Serbati A., Maniero S., Bracale M., & Caretta S. (2021). Come costruire un syllabus learner-centred? Creazione e validazione di una rubrica di (auto)valutazione del syllabus. *Excellence and Innovation in Learning and Teaching - Open Access*, 6(1). Doi: 10.3280/exioa1-2021oa12067.
- Serbati A., Picasso F., Doria B., & Grion V. (2022). Learning outcomes and constructive alignment in the Mega-Universities Syllabi: which “promises” to students?. *Form@re - Open Journal Per La Formazione in Rete*, 22(2): 61-77. Doi: 10.36253/form-13022.
- Tino C. (2022). La costruzione del Syllabus per una didattica innovativa. In: M. De Rossi & M. Fedeli (Eds.). *Costruire percorsi di faculty development* (pp. 105-133). Pensa Multimedia.
- Viganò R. (2002). *Pedagogia e sperimentazione. Metodi e strumenti per la ricerca educativa*. Vita e Pensiero.
- Wambsganss T., Niklaus C., Cetto M., Söllner M., Handschuh S., & Leimeister J. M. (2020). AL: An adaptive learning support system for argumentation skills. In: *CHI'20: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-14). Association for Computing Machinery. Doi: 10.1145/3313831.3376732.
- Yarosh J. H. (2021). The syllabus reconstructed: An analysis of traditional and visual syllabi for information retention and inclusiveness. *Teaching Sociology*, 49(2): 173-183. Doi: 10.1177/0092055X21996784.