



THE Umayyad CENTER OF SCIENTIFIC DEVELOPMENT IN THE LIGHT OF ISLAMIC EDUCATIONAL PHILOSOPHY

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Abstract

This study explores the Umayyad dynasty (661–750 CE) as a central force in the early institutionalization of science and education in the context of Islamic educational philosophy. The study uses a qualitative philosophical-historical approach to examine the integration of religious and rational sciences in a single education system by the Umayyads. The results show that the Umayyad caliphs, especially in Damascus and al-Andalus, developed knowledge by creating kuttab schools, mosque learning circles, and translation bureaus where Greek, Persian, and Indian sciences were translated into Arabic. The standardization of Arabic language and the public libraries that were promoted by the dynasty made education a civilizational obligation and not a privilege of the elite. In terms of the Islamic educational philosophy, this method represented the idea of tawhīd al-ilm (unity of knowledge), tarbiyah al-insan (holistic human development), and ma-sala-hah (social welfare). This paper finds that despite being lost in the shadow of the Abbasid period, the Umayyad input played an important role in the development of an epistemological framework that would integrate faith, reason and the collective duty. Surprisingly, the results also prove that early Umayyad endeavors foresaw numerous subsequent developments and institutionalization of education and intercultural intellectual exchange. In turn, the paper provides a fresh conceptual framework to interpret the roots of Islamic scientific ideas and proposes new ways that current research should take in Islamic educational philosophy and historical pedagogy.

Keywords: Umayyad Dynasty, Educational Philosophy, Scientific Development, Knowledge Integration

Introduction

The Umayyad dynasty (661-750 CE) is one of the formative and revolutionary periods in intellectual and pedagogical history of Islamic culture. The Umayyads, being the first caliphate in the succession of the Rightly Guided Caliphs, inherited not only the role of the political head of the nation, but also the necessity of forming a nascent civilization. This was the epoch of the slight birth of the Islamic administrative system, the growth of the territorial administration, and the creation of cultural systems according to which Muslim civilizations would live centuries. Among the Umayyads, whose contribution to learning organization, institutionalization and promotion remain often underrecognized in the context of this larger civilizational project, the Umayyad contribution to these processes is one of the most vital.

Although a lot of the extant historical accounts focus on their political success and military growth, current scholarly work is appreciating that the Umayyads played a key role in establishing the intellectual foundation that dominated during the Abbasid Golden Age. Their work in unifying language, creating learning circles, building early schools (kuttab) and systematized patronage of scholars was the first type of state sponsored educational organization in Islamic history. As a result, the dynasty was one of the first to make a contribution to the epistemic individuality of the Muslim civilization through the synthesis of religious sciences and new rational and empirical knowledge.

The Umayyad period is indicative of practical application of some of the fundamental philosophical concepts of the time, including tawhīd al-ilm (unity of knowledge), tarbiyah al-



insan (holistic human development), and *maslahah* (public welfare). The principles underline that knowledge in Islam is not subdivided into mutually exclusive but that all branches of knowledge, a religious, linguistic, and scientific branch, all must make a contribution to spiritual, moral, and societal progress. This unity was further reinforced by the Umayyad efforts to popularize Arabic as the single language of scholarship, state administration and communication of religious messages, which gave Arabic speakers a unified intellectual language of a common language within the various regions.

One such notable conception of Umayyad intellectual vision was to be found in the Western Umayyads of al-Andalus. The creation of Cordoba's of cosmopolitan center of studies, where libraries, observatory, medical schools, etc. were located, and the translation houses demonstrate the dynamic interaction of faith, reasoning and intercultural fusion. Academics in the patronage of the Umayyads were exposed to Greek, Persian, Indian and Latin sciences, and translated and synthesized them in an Islamic context. This culture created a culture that did not see rational sciences as the contradiction to religious learning, but rather an extension of it, thus in the wider sense of the creation of God.

In spite of these great contributions, contemporary historical literature tends to wipe out the Umayyad intellectual tradition with excessively heavy focus on the Abbasids. Consequently, the Umayyads are often viewed in a very limited political perspective, forgetting that they also were the builders of first Muslim educational institutions and science. This asymmetry has left a scholarly gap: although the Abbasid translation movement and institutional learning (including Bayt al-Hikmah) have been thoroughly studied, the foundations that had to be present to so succeed have scarcely been researched.

The current paper aims at filling this gap by reconsidering the Umayyad dynasty in terms of the Islamic educational philosophy. It claims that the Umayyads developed the first systematic pattern of Islamic education which blends spiritual development, linguistic standardization, administrative education as

well as development of rational inquiry. Their policies and institutions are based on a consistent philosophical worldview, which acknowledges knowledge as both a trust of God (*amanah*) and need of civilization. Through the analysis of written materials, historical documents and the modern critical interpretation, this study will prove that the Umayyad model of knowledge production is an ancient Islamic paradigm that balances revelation (*naql*) to reason (*aql*).

Thus, the Umayyad dynasty, especially its Andalusian branch, is the focus of the paper in the context of the pivotal role in the initial institutionalization of science and education. It discusses the way Umayyads applied the principles of Islamic educational thought to the political realm and how the intellectual perspective helped them create a single epistemological structure. By doing so, the work does not only restore a forgotten part of the Islamic intellectual history but also dictates the ongoing applicability of the Umayyad model of education in the present discussions on Islamic education, scientific progress, and how moral and rational knowledge can be combined in the contemporary Muslim societies.

Methodology

This study uses a qualitative, philosophical historical method to examine how far the Umayyad dynasty was used as a center of scientific and educational progress in the overall context of the Islamic educational philosophy. By critically investigating both classical primary sources in Islamic history and the current academic literature, the research is able to recreate the historical account of how the Umayyad policies and institutional structures shaped the early Islamic science. The rationale behind this question is a scholarly need to re-evaluate the Umayyad period in terms of its own history of evaluation rather than in the terms of its primarily political historiography, the significance of which is more crucial to the intellectual and moral growth of Islamic civilization.

The methodological implementation was carried out in three integrative stages, which included: primordially, systematizing the collection and analysis of recent academic texts,



manuscripts, and translated works in the topic; second, the application of the analyzed texts to the philosophical terms of *tawhīd al-ilm*, *tarbiyah al-insan*, and *maṣlahah*; and third, the inference of the results in coherent argumentation; that is, how historical authenticity can be compared with the postulates of Islamic educational philosophy. All interpretive judgments, analytical connections, and conclusions are pursued with the focus on scholarly rigor and ethical source use and substantial addition to the current Islamic educational and historical discourse.

Results and Findings

1. Education Institutionalization

The sources suggest that the Umayyad leaders were the first in the Islamic world to institutionalize the educational process and organize it in accordance with the governmental institutions. The study groups based on Quranic study were informal and resulted in the emergence of *kuttāb* (scripture schools) and academies of the mosque which provided education in moral, linguistic, and civic aspects (Hidayah, Faridi, and Ishomuddin, 2024). These schools led to the development of literacy, Quranic recitation, and Arabic grammatical skill levels, thus creating a literate administrative caste (Darsyah, 2023; Ahmed, 2021). (Wahyuni and Afifah, 2024) highlight that the concept of knowledge developed by the Umayyads was a type of worship (*ibādah*) and one of the pillars of societal order. Their programs institutionalized basic training and promoted the teachers (*mu'allimūn*) to key officials of the people (Farouk and Nugroho, 2023). This institutionalization marked a turning point in the unplanned approach to learning and the planned approach to schooling, which would be the basis of the later *madrasah* system of the Abbasids. According to scholars like (Fitriani, Sa'diyah, and Mubin, 2023) note that this integration of moral and intellectual learning reflects, ed the Islamic principle of *tawhīd al-ilm*, the unity of all knowledge under divine guidance.

2. Translation and Science Transmission

Another important observation is the fact that the Umayyads facilitated translation and transmission of scientific knowledge of Greco-Roman, Persian and Indian intellectual culture. Empirical findings by (Wahyuni and Afifah,

2024), (Auhaina, 2022) as well as (Rahim, 2023) demonstrate that the state of Umayyad funded scholars who collected, copied, and translated classical works in the fields of astronomy, medicine and philosophy. These activities also preceded the Abbasid *Bayt al-Hikmah*, which meant that the nascent scientific renaissance in Islam was a Umayyad policy (Masyhari and Husaini, 2023). (Al-Ghazi, 2025), and (Kirchner, 2024) argue that translation was also an active and integrative process in which rational investigation (*'aql*) was reconciled with revealed knowledge (*naql*). What was the result was a unique Islamic integration of knowledge appreciating empirical research, but maintaining spiritual morality. According to (Jarrar, 2024) and (Mahfouz, 2023) this point of view is supported by the idea that the intellectual culture of the Umayyads encouraged curiosity and tolerance toward non-Arabic scholars, especially medical and astronomical sciences that had been inherited in Alexandria and Persia.

3. Linguistic Development and Cultural Development

The language served as one of the main pillars of the Umayyad scientific and educational reform. (Masyhari and Husaini, 2023) argue that Arabic was a language that was codified and standardised in a systematic manner to be helpful in the religious discourse, as well as in the scientific discourse. The Arabic language through this policy was to become a general academic *lingua franca* of the Umayyad worlds, which is a semi-dialectic vernacular. (Hidayah, 2024) and (Djouadi, 2023) also show how the institutionalisation of the Arabic grammar and rhetoric supported the establishment of logic, mathematics and philosophical argumentation. As a result, the Arabic language became the means of not only religious prayers but also scientific communication, and it brought together scholars in Syria, Iraq, North Africa, and *andalus* (Olivé-Busom, 2024). (Amini, 2024) notes that this linguistic unity formed an intellectual network that supports inter-regional conversation and manuscripts exchange which maintains and preserves the body of knowledge. The culture of the Umayyads was not restricted to language and also included architecture, calligraphy, and manuscript production, each of which was a perfect symbol of an aesthetic



synthesis with rational certainty (Hillenbrand, 2024; Quesada, 2022).

4. The Flowering of Education in al-Andalus

The Western Umayyad state increased the educational and scientific culture in the country to unrealized standards in al-Andalus. The diagrams of (Auhaina, 2022) and (Amini, 2024) trace the establishment of massive libraries, observatory, and translation centers by 'Abd al 2 -Raḥmān II and al 2 -Hakam II in Córdoba, which led to the development of institutions that later became models of European universities (Espina 2 -Jerez et al., 2023). The archaeological and sociological studies (Kirchner, 2024; Olivé-Busom, 2024) support the idea that the scientific activities never existed outside of the civic life as such: medicine, astronomy, agriculture, and engineering thrived alongside theological and ethical education. As (BaHammam, 2025) points out, Andalusian medicine was very focused on compassion and service to the community, and astronomy was a field of study that enriched faith by contemplating cosmology. (Al-Harbi, 2023) and (Sulaiman, 2025) continue to stipulate that the Al-Andalusic Umayyad system of education was the ideal embodiment of the concept of integrated pedagogy when empirical inquiry and moral virtue were on equal ground. In this way, Western Umayyads proved that scientific development and Islamic spirituality were incompatible and complementary ways to the truth.

5. Philosophical Interpretation of the Umayyad Contribution

The Umayyad input can be seen within the context of Islamic educational philosophy as an example of the concepts of unity, equilibrium, as well as purposeful knowledge. According to (Fitriani et al., 2023) and (Wahyuni and Afifah, 2024), the Umayyads were the exemplars of the so-called holistic human development (*tarbiyah al-insan*) as they developed the intellect, emotion, and faith at the same time and hence proved that education was aimed at producing not only skilled people but also morally responsible citizens. (Masyhari and Husaini, 2023) believe this inclination to the ethical knowledge (*'ilm nāfi'*) was the intellectual support of the early Islamic civilization.

Other scholars like (Hillenbrand, 2024) and (Jarrar, 2024) also argue that the physical

expressions of the Umayyad era of mosques, libraries and palaces were physical expressions of the educational ideal. These buildings served as places of contemplation, discourse, and prayer thus incorporating the material and spiritual aspects of learning.

Altogether, the philosophical interpretation of the Umayyad legacy indicates that scientific and educational achievements of that dynasty were founded on a long-term adherence to the moral mission of knowledge to help human society get closer to the truth, justice, and divine wisdom (Al-Ghazi, 2025; Djouadi, 2023).

Discussion

Making Education an Education of Faith and Government

The results find out that the Umayyads molded the first form of systemated education in the history of Islam which was modified in the form of informal Qur'ānic circles to formal *kuttāb* schools and mosque academies. This design brought together ethical training and administrative training, which meant the conscious combination of both spiritual and civil aims. (Hidayah, Faridi, and Ishomuddin, 2024) and (Wahyuni and Afifah, 2024) confirm that the Umayyads were the first to institutionalise state-patronised public teaching, and (Ahmed, 2021) discusses its contribution to enhancing the level of administrative literacy. Such findings are in line with the philosophical interpretation of Fitriani, Sa'adiyah, and (Mubin, 2023), who argue that the Islamic education is based on the *tawḥīd al-ilm*, unity of knowledge. In comparison to the previous works focusing on the Abbasid input (Darsyah, 2023), the current explanation recognises the Umayyads as the creators of institutionalised knowledge based on both religion and logical system. This nexus goes on to show how education in their time was both moral reform and nation-building, both in the conception of Islam of knowledge as a trust (*amah*) which maintains the life of religion and social justice.

Transmission of knowledge and growth of science

There was another important discovery that highlights the promotion of translation and communication of the Greek, Persian, and Indian cultures by the Umayyads. Works in astronomy, medicine and philosophy were translated under the patronage of Umayyads and this formed the foundation of subsequent



intellectual prosperity. According to (Wahyuni and Afifah, 2024) and (Rahim, 2023), this phenomenon is referred to as a pre-Abbasid renaissance because of the way it led to the introduction of the idea of science as a divine journey. Unlike previous historians who have structured the activities of Umayyad translators in terms of political intent, recent works like (Al-Ghazi, 2025) and (Kirchner, 2024) have identified them as theologically informed in their strategies to achieve universal truth (hikmah).

This discussion agrees with (Masyhari and Husaini, 2023), who see early Islamic science as a collaboration of revelation (naql) and reason ('aql). Although the Umayyads adopted foreign sciences in Islamic worldview, this reflects the fact that the rational enquiry was seen as a type of worship and not secular curiosity. These results affirm that the dynasty turned the outer forces in the form of one Islamic epistemology.

The language and cultural Reform as a Pedagogical Policy

The results also prove that language was used as a tactical educational means during the Umayyad period. Arabic was standardised, codified, and learned as the language of religion and science and thus was able to bring in intellectual unity through the empire. This finding confirms the ideas of (Djouadi, 2023) and (Olivé-Busom, 2024), who emphasize the linguistic policy as the core of cultural integration. The current work adds to their view by defining the Umayyad linguistic reform as pedagogical, not simply administrative one- it produced rational clearness, grammatical accuracy and a universal communication between thinkers.

A similar situation occurred with earlier publications, e.g., (Qesada-Garcia, 2022), who related Arabicisation to the bureaucratic control, but the results obtained today relate it to the philosophical project based on the vision of the Islamic perception 'ilm li al-ummah-knowledge of the community. The connection between statistics and theory thus depicts the fact that the Umayyads made language the spirit of learning by combining aesthetics, reason, and faith to create a complete intellectual culture.

Al-Andalus: Educational Blossoming

The Western Umayyads spread the intellectual and educational ideals of their Eastern predecessors in al-Andalus. Cordoba became a hub of libraries, observation houses, and translation workshops to maintain and increase classical education. According to (Auhaina, 2022), and (Espina -Jerez et al., 2023), these institutions served as early research academies where philosophy and empirical sciences co-existed. Contrary to previous approaches that separated Andalusian science with Islamic influences, the given analysis proves continuity: al-Andalus was the full-fledged expression of the Umayyad edification ideology. Also (BaHammam, 2025) and (Al-Harbi, 2023) note that the Andalusian medicine and astronomy were both united by observation as well as moral reflection and found that scientific inquiry could never be held outside of moral intent. These findings are in line with the Islamic educational philosophy that requires knowledge to lead the learner to humility and social responsibility. As a result, the Umayyad legacy in al-Andalus connects historical information with philosophical explanation, which proves that the endeavors of science in Islam are an act of faith that manifests itself in the form of a reason.

Philosophical Significance and Continuity in the modern world.

The philosophical aspect of the conclusions demonstrates that Umayyads have done what modern researchers define theoretically: education as a whole human formation (tarbiyah al-insan). Moreover (Fitriani et al., 2023) and (Masyhari and Husaini, 2023) suggest that the purpose of Islamic education is to reconcile the intellectual, ethical, and social obligation. These ideals have been actualised by the Umayyad model whereby there was institutional policy as well as linguistic unity and moral governance. The Umayyad practice made science and spirituality intertwined as compared to the current systems, in which science and spirituality are separated, so that the knowledge gained is not only progressive but also virtuous.

This view is reflected in (Farouk and Nugroho, 2023) and (Mahfouz, 2023): both researchers believe that a reinvention of such models of integration can help lead the reform of Islamic



education in the modern world. This comparison proves that the philosophy of learning of the Umayyads is still applicable when it comes to resolving the contemporary issues of connecting modernity with morality and intellectual development with divine intent.

Conclusion

The paper finds that the Umayyad dynasty deserves to be reassessed not as a political interregnum but as an influential intellectual movement in Islamic history. The findings show that the Umayyads strategically created an initial epistemological system that combined the religion revelation, Arabic language and rational investigation into a unified system of education and science. This both contradicts the historiographical paradigm that significant scientific and pedagogical renewal of Islam did not take place until after the Abbasids, but reveals that the Umayyads were the first to contemplate a moderate pedagogical model, which foreshadowed subsequent Islamic intellectual currents.

The future of the study of the Umayyad knowledge systems will not be narrative historiography but comparative, empirical, and interdisciplinary studies of Umayyad knowledge systems, such as the analysis of manuscripts, the reconstruction of curricula, the archaeological evidence of architecture, and the analysis of intellectual networks among Damascus, Kufa, and al-Andalus. Empirical knowledge would be enhanced by the use of digital humanities tools to map teaching, translation, and academic circulation, as well. In a philosophical sense, the future research must revert to the Umayyad paradigm to enlighten the modern Islamic education philosophy especially in a moral development and scientific advancement balancing and strive to revise integrative philosophical structures that can balance spiritual values and intellectual creativity.

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