

The Naxi Dongba MOOC: A Test Case for Digital Revitalisation of Endangered Writing Systems

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Abstract

From 2019 to 2023, three universities – the National Institute of Oriental Languages and Civilisations, the University of Geneva, and the Beijing Language and Culture University – collaborated to produce a Massive Open Online Course (MOOC) entitled *Initiation to the Dongba Script*. The objective was to preserve and revitalise the Dongba script, an endangered writing system used by the Naxi people in southwestern China. The course aimed to engage learners around the world in learning the script and subsequently contributing to the preservation of this unique cultural heritage. Hosted by the French MOOC platform FUN, the MOOC ran for the first time from April to June 2023. Using a qualitatively led mixed research method integrating pre- and post-course questionnaire data, forum discussions, informal feedback, and fieldwork conducted in Lijiang in August 2023, this paper explores how participants experienced the MOOC as a learning and cultural engagement opportunity and which factors facilitated or constrained broader community participation, particularly from the Naxi community itself. The findings show that the MOOC successfully reached a highly educated, multilingual, international audience with strong intrinsic motivation. It achieved a completion rate more than double the global MOOC average, generating sustained post-course engagement across academic, creative and professional domains. The analysis reveals that, for many participants, the course functioned as a cultural threshold experience, repositioning the script from that of an unknown object to a personally meaningful one. Some learners went on to pursue academic research, creative applications, or further study of the Naxi language, suggesting the potential for longer-term engagement. These findings reveal a tension in MOOC-based heritage education: Open platforms can reach global audiences, yet local cultural transmission depends on sustained engagement with the living communities the heritage belongs to. They also offer valuable insights and lessons for digital heritage education initiatives in other endangered script contexts.

1. Introduction

According to UNESCO's *Atlas of the World's Languages in Danger* (2009), approximately 7,000 languages are spoken worldwide, with 40% classified as endangered. The disappearance of these languages signifies not only the loss of cultural heritage but also the erosion of knowledge systems, oral traditions, and ways of life. Writing systems, as primary carriers of linguistic and cultural knowledge, face an equally urgent crisis. In his recent book *An Atlas of Endangered Alphabets* (2024), Tim Brookes emphasizes that minority writing systems are especially vulnerable; of the roughly 300 scripts currently in use worldwide, about 85% are at risk. One of the scripts at greatest risk is the Dongba script.

The Dongba script is a hieroglyphic-like writing system characterised by a strong pictographic dimension, used by the Naxi ethnic group, comprising approximately 300,000 people living in northwestern Yunnan Province, southwestern Sichuan, and the foothills of Tibet in China [Oppitz and Hsu 1998]. It is created and used during religious ceremonies by Naxi ritual practitioners called Dongba, from whom the script gets its name.^[1]

The Ancient Naxi Dongba Literature Manuscripts (Figure 1) were inscribed in UNESCO's Memory of the World Register in 2003 – recognition that the Naxi people had created this unique system, “using a particular pictographic script to give

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voice to their customs and write down their scriptures" [UNESCO 2003]. This register identifies documentary heritage of outstanding universal value — materials deemed so significant to human history and collective memory that their preservation is considered a global responsibility.



Figure 1. China Ancient Dongba Literature, © Lijiang Prefecture Administration, Yunnan (UNESCO)

Yet this internationally recognised heritage is now critically endangered [Zhao 2013]. Under pressure from dominant surrounding cultures, Dongba culture is slowly dying out: Only eleven masters^[2] remain who can read the scriptures, the handwritten literature is physically deteriorating, and what has not yet been collected faces irreversible loss — placing the Dongba script among the most critically endangered writing systems in the world (Endangered Alphabets Project). Current preservation efforts remain largely confined to institutional settings or folklore and tourism contexts — both of which risk preserving its form while weakening its living practice and transmission. The situation facing the Dongba script makes it ideal as a pilot project for other approaches to script revitalization.

Digital technologies have increasingly been mobilised in support of endangered language and script preservation, ranging from mobile applications and digital archives to community documentation platforms and online repositories such as *The Endangered Languages Documentation Programme* (ELDP). Each offers distinct affordances and limitations. Apps provide accessible, gamified vocabulary exposure but tend to prioritise functional utility over cultural depth, rarely engaging with the socio-cultural and ritual dimensions that give writing systems their meaning. Digital archives ensure long-term scholarly access but risk what [Poupard 2019] has described as a state of “cultural living death,” in which cultural forms are preserved but disconnected from living practice and transmission. Community platforms support vernacular documentation, but accessibility remains a significant barrier. The Living Tongues Institute has created Living Dictionaries [Daigneault and Anderson 2022] to enable language activists to develop resources and teaching materials through multilingual interfaces (14 languages), user-friendly design, and a Language Sustainability Toolkit — yet digital

literacy training remains available in only three languages, leaving speakers of digitally disadvantaged languages largely underserved. This accessibility gap remains a structural challenge for digital preservation initiatives more broadly, and one that any new tool in this space must address.

Massive Open Online Courses (MOOCs) represent a distinct position within this landscape. As open, scalable platforms combining structured instruction with interactive and participatory features [Siemens and Downes 2013] [Siemens, Gašević, and Dawson 2015], they can offer deeper cultural engagement than apps while remaining more dynamic and accessible than static archives — and their massiveness makes them particularly well suited to attracting a global audience. Research on language MOOCs has grown substantially over the past decade [Sharova et al. 2022], documenting their potential for reaching dispersed learner communities and fostering engagement with less commonly taught languages [Jitpaisarnwattana, Reinders, and Darasawang 2019] [Martín-Monje and Bárcena 2015]. However, the application of MOOCs specifically to endangered writing systems — rather than endangered spoken languages — remains largely unexplored.

In early 2016, Professor Joël Bellassen (National Institute of Oriental Languages and Civilisations INALCO, France) invited me to co-develop the first Chinese language MOOC for French-speaking learners within the INALCO's series of MOOC for oriental languages and civilisations. The Chinese MOOC officially launched at the end of that year and has since been run eight times, attracting more than 45,000 registered learners from over 100 countries.

It was during this project that an unexpected observation sparked a new idea. In the original INALCO MOOC project, alongside languages such as Arabic, Chinese, Czech, Turkish, and Hebrew, Professor Bellassen noticed a language he had never heard of: Mazatec, an endangered language spoken by only 200,000 people in Mexico. Having already witnessed the massive dimension through the Chinese language MOOC, he began to wonder whether MOOCs might serve as a tool for language policy: The cumulative number of learners a MOOC can reach could potentially approach, or even exceed, the total number of speakers of an endangered language. It was this insight that led Professor Bellassen to propose the Dongba script as a compelling case for such an experiment [Bellassen and Wang Szilas 2020].

Together, we drafted a proposal for a MOOC entitled *Initiation to the Dongba Script* (hereafter Dongba MOOC). During the Beijing Language and Culture University delegation's visit to Europe in April 2019, the project was promoted at meetings held at INALCO in Paris and at the University of Geneva, thereby securing the agreement of the three institutions to collaborate. However, the signing of the cooperation agreement was delayed due to the COVID-19 pandemic until July 2020, when production officially commenced. Before its launch in April 2023, the MOOC received support from UNESCO and was promoted through the organisation's network.

The course aimed to blend script instruction with cultural immersion, engage a diverse global audience with the Dongba script and Naxi culture, boost awareness of this intangible heritage both globally and within China, and cultivate a community committed to using and studying the script.

Hosted by the French MOOC platform France Université Numérique (FUN), the Dongba MOOC ran for the first time from April to June 2023. The present study examines this pilot as an exploratory case study of MOOC-based endangered script outreach, with particular attention to how open digital platforms can balance accessibility, cultural depth, and community engagement. The following sections present the course design and its first run, outline the research questions and methodology, and analyse the results in light of broader implications for digital heritage education.

2. The Design of the Dongba MOOC

The design of the Dongba MOOC was largely inspired by prior experience in designing the Chinese introductory MOOC (Kit de contact en langue chinoise, INALCO, 2016). Although the two writing systems differ in cultural origin, their structural similarities [Milnor 2005] provide a basis for transferring and adapting key design principles from Chinese as a Second Language (CSL) instruction to Dongba script teaching.

The Dualism-based method (二元论), developed by Joël Bellassen, offers a particularly relevant framework for Dongba script learning [Bellassen 2010]. It treats the character as the primary unit of instruction: Character learning guides word learning, rather than the reverse, with particular emphasis on the visual identification of graphic forms as a foundation for

memorisation and comprehension [Wang-Szilas and Bellassen 2017]. The method further proposes that, in the initial stages of learning, oral and written acquisition can be productively decoupled: Rather than learning to read and speak simultaneously, beginners focus first on the semantic and visual dimensions of the script, developing familiarity with its logic and meaning before engaging with its phonetic dimension.

This character-based approach is particularly well suited to the Dongba script for two reasons. First, the script functions as a mnemonic aid rather than a transcription of spoken Naxi: A pictogram such as a seated priest signifies concepts like sacrifice or ritual through visual form and cultural context, not by representing the sound of a spoken word. Second, its strong pictographic character gives it an immediate visual appeal and cultural richness that can be appreciated independently of any spoken language. Foregrounding the written dimension therefore lowers the entry barrier, broadens the potential audience, and reduces cognitive load — making the learning process more accessible and efficient. In this respect, Dongba components function similarly to Chinese radicals; both can be analysed systematically to support comprehension and retention.

Grounded in these pedagogical principles, the Dongba MOOC also draws on key scholarly and technical resources. Fang Guoyu's *Dictionary of Naxi Pictographic Characters* (1995) classifies 1,400 Dongba characters into ten functional categories, forming a structural basis for instruction, while recent advances — Unicode standardisation [Unicode Consortium 2017] and digitised audio archives [Michailovsky et al. 2014] — further support the digital teaching and preservation of Dongba script. Together, these resources informed the selection of a core corpus of approximately 300 characters, following the “threshold level” concept [Van Ek 1975] [Coste 1977] [Council of Europe 2001] and guided by the following criteria:

Simplicity and combinability: Simple characters serve as the foundation for compound forms, helping learners grasp the logic of character formation and supporting creative expression. For example, the character  (man, husband, son) serves as the foundation for learning characters such as  (woman, wife, daughter),  (father),  (mother), etc.

Meaning-linked forms: Characters with strong visual-to-meaning associations enhance memory, comprehension, and the joy of learning as well. For example, the pictograms  (sky),  (sun),  (moon),  (cloud), etc., are used to form the ideograms  (sunny day),  (cloudy day),  (light).

High frequency: Frequently used characters in authentic Dongba manuscripts ensure the acquisition of practical vocabulary.

Graphic families: Characters are grouped based on shared visual or structural features, which aids in pattern recognition and understanding the script's internal logic.

Cultural significance: Characters are selected for their cultural relevance, offering insights into Naxi traditions and everyday life. For example, the symbol  shows a seated priest (Dongba) wearing the sacred 5-lobed headdress (only 3 lobes are represented in the Dongba symbol) and reciting the Dongba classics.

The instructional design is inspired by Diana Laurillard's theory of six learning types: acquisition, inquiry, practice, discussion, collaboration, and production [Laurillard 2012] [Laurillard et al. 2018]. To ensure pedagogical coherence, each module includes activities aligned with these dimensions, providing learners with a balanced combination of cognitive engagement, practical exercises, and collaborative opportunities.

- **Acquisition:** Learners are introduced to new characters via video lectures.
- **Practice:** Interactive matching exercises reinforce recognition and meaning associations.
- **Inquiry:** Learners infer meanings from compound signs using components they have previously learned.
- **Production:** Writing practice is supported by digital tracing tools and printable worksheets accompanied by demonstrations from Dongba priests.
- **Discussion:** Learners share their interpretations and reflect on cultural meanings in discussion forums.

- **Evaluation:** End-of-module assessments provide feedback and reward learners with digital badges.

The Dongba MOOC was structured into seven modules. The first module introduces the Dongba script from historical and cultural perspectives. The subsequent six modules each teach around 50 characters organised thematically. These themes include family and community, movement and feelings, weather, seasons and numbers, natural areas, plants and animals, and daily life. There are also activities focused on character learning and cultural engagement. Instructional content for the entire MOOC is offered in 4 languages — French, English, Chinese, and German — to support plurilingualism and intercultural accessibility [Beacco et al. 2016].

Beyond its structural organisation, the course was designed with the intention of addressing common challenges associated with MOOCs, such as high dropout rates, declining learner engagement, and limited interpersonal interaction. Rather than assuming that MOOCs inherently overcome these limitations, this project explores how specific design features may help to mitigate them.

Accordingly, short videos and a modular structure were used in an attempt to reduce perceived time commitment. Character learning followed a progressive sequence — from discovery and comprehension to exploration and practice — intended to support visual engagement with the Dongba script. Forums and discussions, facilitated by three multilingual tutors, were incorporated to encourage learner interaction. The course was also built around a clear objective — script revival — as a way to support learner motivation, with an emphasis on cultural identity and shared purpose to potentially encourage persistence.

These features are potentially relevant for minority script revival, as MOOCs can enable global participation, including diaspora learners, offer low-barrier access, support repeated practice, and help foster a sense of community and cultural belonging.

During its first run (April 24–June 26, 2023), the Dongba MOOC attracted 2,038 learners from 81 countries. The largest proportion came from France (65.36%), followed by China (5.91%), Switzerland (2.36%), Belgium (2.17%), and Germany (1.47%), with additional participants from the United States, Spain, Italy, Canada, Morocco, and Japan. A total of 234 success badges were awarded to the 324 participants who completed the course by the end of the session, representing success and completion rates of 11.5% and 15.9% respectively. This is significantly higher than the global average of 5%, as indicated by research concerning MOOC completion rates [Jordan 2015] [Celik and Cagiltay 2024]. This relatively high completion rate may, at least in part, be associated with the design features outlined above.

3. Research Questions and Mixed Method Methodology

3.1 Research Questions

This study examines the potential and limitations of the MOOC format as a tool for outreach to communities with endangered scripts through a case study of the design, implementation, and reception of the Dongba MOOC during its first run. Drawing on data collected during this period, it analyses both the pedagogical design and learner reception. The study is organised around two core research questions:

1. Who participated in the Dongba MOOC, and how did they experience and reflect on it as a learning and cultural engagement opportunity?
2. What forms of community connection and knowledge exchange emerged among learners through the MOOC, and what structural factors facilitated or constrained broader participation — particularly from the Naxi community itself?

These two questions are explored through the following aspects:

- **Learner demographics:** Who are the course participants, and what motivates their interest in a MOOC dedicated to an endangered script?
- **Perceptions of the course:** How do learners evaluate specific course features — such as the multilingual interface and the integration of cultural context — and what do their evaluations suggest about effective

design for endangered script MOOCs?

- Participatory learning: How did participants engage with the citizen science task of identifying Dongba manuscripts, and what factors shaped the level and nature of their participation?
- Post-MOOC engagement: What forms of continued engagement with the Dongba script did participants report after completing the course, and how might these be understood in relation to the course design?
- Community and networking: What forms of connection and exchange emerged among learners, and what were their limitations?

3.2 Data Collection and Analysis Strategy

This study employs a qualitatively driven concurrent mixed methods design QUAL + quan [Creswell 2021] [Schoonenboom and Johnson 2017] [Morse and Niehaus 2009], embedded within an exploratory case study framework.

Qualitative and quantitative data were collected through multiple sources: pre- and post-course questionnaires with open-ended responses; course discussion forums; email and social media; and fieldwork conducted in Lijiang in August 2023. Across these sources, the qualitative component serves as the core of the analysis and the quantitative component plays a supplemental, descriptive role.

Qualitative data carry the primary analytical weight, allowing the analysis to move beyond what participants did to address how and why they engaged.

The fieldwork conducted in Lijiang (August 2023) consisted of informal conversations with local Naxi community members, including one Naxi participant who had completed the MOOC. This fieldwork offered a rare emic perspective on how the course was received within the heritage community and is treated here as qualitatively significant rather than statistically representative.

The purpose of mixing is complementarity [Greene, Caracelli, and Graham 1989]: quantitative data tell us what happened; qualitative data help explain why. The two are combined so that each can enrich the other. When they point in different directions, the difference is itself worth examining.

3.3 AI-assisted Qualitative Coding

In preparing the open-ended responses for analysis, ChatGPT was used as a coding assistant to help organise the qualitative data into structured categories. This process applied to both free-text responses and the “Other” or “Comments” entries in multiple-choice questions.

A typical prompt used was:

You are an experienced qualitative researcher specialising in thematic analysis. Please categorise the following open-ended responses to the question: '[insert the question]' into thematic groups [insert the specific requirement]' and present them in a table. For each group, please provide:

- Category code (a short, descriptive label)
- Brief explanation of the theme
- Original example quotes representing typical responses in this group
- Response
- Put the non-categorised data aside for human check.

Here is the data: [paste the data or attach file]

The coding process followed three stages:

1. ChatGPT was prompted to generate an initial categorisation of responses into thematic groups, using the question context as an orienting frame (see prompt above).
2. The author manually reviewed every individual response against its assigned category. Responses that had been miscategorised — whether due to ambiguous phrasing, cultural nuance, or the model's pattern-

matching limitations — were manually reassigned to more appropriate categories or, where no existing category applied, used to generate a new category.

3. The refined category schema was resubmitted to ChatGPT for formatting into a structured table suitable for systematic analysis and data visualisation.

This three-stage process was applied independently to each set of open-ended responses, resulting in question-specific category schemas that reflect both the data and the researcher's contextual judgement.

As shown in Table 2, responses mentioning “hanzi”, “sinogram” or “Mandarin” were all grouped under “Chinese writing systems” — a terminological clustering that would have been far more time-consuming without AI assistance. However, manual correction was required at several points: merging over-split categories (e.g. “russe” and “cyrillique” coded separately despite referring to the same script); reassigning ambiguous responses (e.g. “Les langues sémitiques” recoded to a typological category); and creating new sub-categories for miscategorised responses (e.g. “Yi,” “Shui,” and “Phags-pa” scripts separated from the broader Chinese category). These interventions confirm that interpretive judgement remained essential throughout, despite AI assistance at the initial clustering stage.

No formal codebook was provided to ChatGPT in advance; the coding schema emerged inductively from the data, with researcher judgement driving all subsequent refinement. This approach carries both advantages — allowing categories to emerge from the data rather than being imposed upon it — and responsibilities, as the manual verification stage was essential to ensure that final categories accurately represent the data rather than the model's defaults. The use of generative AI in qualitative coding remains an emerging practice, and we flag the need for ongoing methodological reflection and transparency in reporting such processes.

Results

This section presents the findings from the pre- and post-MOOC questionnaires in two steps: first, the standardized items provided by the French MOOC platform (FUN); and second, the results of the ten additional open-ended questions. Unless otherwise noted, thematic classification and interpretive analysis of all open-ended responses are presented in Section 5; this section reports numerical distributions only.

4.1 The Pre-MOOC Questionnaire Results

The pre-MOOC questionnaire received 396 complete responses (19.4% response rate) as presented in Appendix Table A. Among the respondents, 74% were female. Nearly half (48%) held a master's degree, and 15% had completed doctoral studies. Professionally, 52% were employed and 20% were retired. Participants' ages ranged from 17 to 88 years, with an average age of 50; notably, 58% fell within the 40–70 age group. The majority (80%) were native French speakers.

Most respondents (72%) had prior experience with MOOCs. Regarding subject familiarity, 94% identified as beginners. In terms of engagement, 36% expected to dedicate 1–2 hours per week to the course, 64% planned to watch all the videos, and 53% intended to complete all course activities.

When it came to certification, 68% were not initially focused on obtaining the free honour code certificate but would be satisfied to receive it. Interest in a paid certificate was modest, with 16% willing to pay, particularly if the cost was below 50 euros.

Looking ahead, 57% expressed confidence in their ability to study the planned number of hours. Meanwhile, 12% indicated interest in enrolling in another MOOC on the same topic, primarily motivated by a desire to deepen their knowledge or further explore languages, cultures, and writing systems.

Turning to the five additional questions, the following results were obtained.

For Q1 *knowledge of other writing systems than their own* (Table 1), 75% of respondents indicated that they were familiar with at least one. The most frequently mentioned systems are summarised in Table 1, and we can find that Chinese writing dominates heavily. It should be noted that variations in terminology and spelling, as well as indirect or embedded

references, made exact counting difficult; automated counting was therefore used to gauge general awareness rather than establish precise frequencies.

Writing System	Mentions
Chinese (Hanzi / Sinograms / Mandarin / Simplified Chinese / Traditional Chinese / etc.)	140
Japanese (Kanji / Kana / Hiragana / Katakana / etc.)	90
Arabic (Arabic script / Arabic alphabet / etc.)	60
Cyrillic (Russian alphabet / etc.)	50
Latin (Roman alphabet / etc.)	45
Devanagari (Hindi script / etc.)	30
Korean (Hangul / Hanja)	25
Greek	15
Hebrew	12
Thai	10
Chinese minority scripts (Yi script, Shui script, Phags-pa script)	3

Table 1. Knowledge of writing systems beyond the native ones (n=396)

In terms of Q2 *multilingual knowledge* (Table 2), English emerged as the most widely spoken second language, with 86% of respondents reporting proficiency in the language. Spanish, Chinese, German, and French were each spoken by around a quarter of respondents. A significant proportion (28%) also reported proficiency in other languages, including Russian, Korean, Dutch, and Arabic.

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The most common languages mentioned in the “Other” responses (with between five and ten mentions each) were Russian, Arabic (Modern Standard and dialects), Dutch/Flemish, Hebrew (both modern and biblical), Korean, and Hindi. Less frequent mentions (two to five mentions) included Esperanto, Ancient and Modern Greek, Latin, Polish, Khmer, Thai, Persian (Farsi), and various sign languages.

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Language	Number	Percentage
English	341	86%
Spanish	116	29%
Other (more details below)	111	28%
Chinese (includes Mandarin, Cantonese and other dialects)	98	24%
German (Often mentioned with some school-level proficiency)	95	24%
French	91	23%
Italian (Frequently cited with cultural/literary motivation)	74	18%
Japanese (Often linked to interest in language or culture)	38	10%
Portuguese	18	5%

Table 2. Knowledge of other languages beyond the native ones (n=396)

Regarding Q3 about the *motivation for enrolling in this MOOC* (Table 3), the originality of the writing system was cited by 87% of respondents. Over half (56%) were drawn to ethnic customs and traditions, 36% sought to compare this script with other archaic writing systems, and 24% were intrigued by the Dongba religion. Additionally, 18% reported that a potential or prior visit to the Naxi region informed their interest.

Answer	Number	Percentage
the originality of the writing system	346	87%
ethnic customs and traditions	221	56%
the comparison with other archaic scripts	144	36%
the Dongba religion	96	24%
the perspective of a trip to the Naxi region in China	72	18%
Others	61	15%

Table 3. Motivations to take the Dongba MOOC (n=396)

For Q4 *whether a language can be approached solely through its oral or written form*, opinions were divided (Table 4). Among the 396 respondents, 49% indicated that both modalities are essential, 25% considered it possible to approach a language through only one modality, and 26% answered “I don't know.” Sixty-four percent of respondents (254) provided qualitative comments.

Answer	Number	Percentage
Yes	100	25%
No	195	49%
I don't know	101	26%
Comments	254	64%

Table 4. Results on whether a language can be approached solely through its oral or written form (n=396)

Regarding Q5 *whether it is useful to learn an endangered language*, 77% of respondents answered “Yes,” 6% said “No,” and 17% answered “I don't know.” (Table 5) A total of 273 open-text comments were received.

Answer	Number	Percentage
Yes	304	77%
No	23	6%
I don't know	69	17%
Comments	273	69%

Table 5. Results on whether it is useful to learn an endangered language (n=396)

4.2 The Post-MOOC Questionnaire

The post-MOOC questionnaire collected 196 complete responses (10% response rate), presented in Appendix Table B. Most respondents expressed high satisfaction with the course: 71% were extremely satisfied, and 28% were satisfied. Nearly 94% of respondents felt they were able to engage as planned, with 49% reporting full involvement.

When asked about the effort required, 95% believed it matched the course description, with 52% answering “Yes, surely”

and 43% “Yes, probably.” The majority, 52%, reported their level as beginner, followed by 44% at intermediate and 4% at advanced. Most participants spent 1–3 hours per week (77%), with 69% feeling satisfied with their learning based on the time invested.

Regarding collaboration, 80% did not participate in collaborative activities such as forums or peer assessments. More than half of the respondents would recommend this course to others.

When asked about applying their learning, 58% felt they probably could apply what they had learned, with only 16% confident they would. On certification, 63% received a free certificate, and most found it valuable for personal or professional use.

Turning again to the five additional questions, the following results were obtained.

For Q1 *If a MOOC on Dongba script is offered in the future, would you consider enrolling?* and Q2 *Would you like to learn the Naxi language?*, future interest remained strong: 92% of respondents indicated they would consider enrolling in a future Dongba MOOC, and 75% expressed willingness to learn the Naxi language.

In relation to Q3 *Do you think that universities need to offer the teaching of endangered languages?*, a significant majority of respondents expressed support for their inclusion in curricula. Of the 189 respondents, 73% (n = 138) provided written comments.

Regarding Q4 *After following this MOOC, has your perception of what constitutes a language changed?*, 46.9% of respondents (n=92) reported that their perception had changed, while 53.1% (n=104) said it had not. A total of 105 open-text comments were received.

In response to Q5 *Can a MOOC be useful for the maintenance and preservation of an endangered language?*, 95% of the 187 respondents answered affirmatively. A total of 125 open-text comments were received.

Finally, feedback suggestions collected through the post-MOOC questionnaire included a desire for more in-depth content, clearer instructions, and additional grammar and pronunciation exercises. There was also interest in expanding the course to include more languages and improving the platform design.

Analysis

This section analyses the qualitative data around the two core research questions and their associated sub-questions. Sections 5.1–5.4 address RQ1, examining participants' profiles, their experience of the course, and their perceptions of its design features. Sections 5.5–5.7 address RQ2, examining the forms of community connection that emerged and the factors that facilitated or constrained broader participation, particularly from the Naxi community itself. Throughout, quantitative distributions from Section 4 provide descriptive scaffolding, while qualitative data — open-ended responses, forum discussions, informal feedback, and fieldwork observations — carry the primary interpretive weight.

5.1 Who participated in the MOOC, and what motivated them?

The pre-MOOC questionnaire indicates that the course attracted a highly educated audience — more than two-thirds held a master's degree or higher — with prior experience in online learning, familiarity with other scripts, and proficiency in multiple languages. This profile is consistent with broader findings in MOOC research, which show that open online courses tend to attract highly educated, already-engaged learners rather than novice or marginalised audiences [Deng and Benckendorff 2017] [Waite et al. 2013].

This demographic profile is reflected in participants' motivations. The 273 open-text comments on the usefulness of learning an endangered language (Table 6) reveal a predominantly cultural and intellectual orientation: 42.5% emphasised cultural preservation and heritage, 32.5% highlighted intellectual and personal growth, and 22.5% cited curiosity and intrinsic enjoyment. The near absence of practical or economic motivations is noteworthy and aligns with the enrolment data: 87% cited the originality of the writing system, and 56% were drawn to Naxi ethnic customs and traditions. Together, these findings indicate that participants engaged with the Dongba script as an act of cultural and

intellectual commitment rather than instrumental utility.

Category	Mentions (out of 200)	Percentage	Example Comments
Cultural and Heritage Preservation	85	42.5%	“To preserve knowledge,” “Saving language as cultural heritage”
Intellectual and Personal Growth	65	32.5%	“It opens the mind,” “Mentally enriching”
Curiosity and Pleasure	45	22.5%	“It is enjoyable,” “Curiosity motivates me”
Linguistic and Cognitive Value	30	15%	“Understanding language structure,” “Improves brain function”
Social and Symbolic Importance	15	7.5%	“Connecting to roots,” “Supporting multilingualism”
Practical Use Doubts	15	7.5%	“Not useful practically, but culturally important”

Table 6. Summary Table of Main Themes in Responses (n=273)

This motivational profile carries a specific implication for endangered script outreach limitation: The Dongba MOOC reached an international audience of motivated cultural learners, but did not substantially penetrate the communities — Naxi speakers, younger generations in Yunnan, heritage learners in China — whose engagement would be most directly relevant to script transmission.

This is not a failure of course design; rather, it reflects a structural characteristic of the MOOC format itself: Open online courses depend on voluntary self-enrolment and digital access, which systematically favours already-engaged, digitally literate learners over the marginalised or geographically remote communities that heritage preservation most urgently needs to reach.

It also invites a reframing of what “success” might mean for a MOOC of this kind: If the primary goal is raising international awareness among educated, multilingual, culturally curious learners, the Dongba MOOC's first run can be considered effective within that scope. The high post-MOOC interest — 92% expressed willingness to enrol in a future Dongba MOOC, and 75% wished to learn the Naxi language — further supports the view that the course functioned as a gateway rather than a destination: a first point of meaningful contact that motivates further involvement. The structural factors limiting participation from local and Naxi communities are examined in sections 5.6 and 5.7.

5.2 What did participants learn beyond the script?

Beyond script acquisition, the post-MOOC qualitative data reveal a broader cognitive and attitudinal shift among participants. Exposure to the Dongba script prompted many to reconsider not only what language is, but also where it should be taught and how it should be revitalised. These reflections — on the nature of language, the role of universities, and the potential of digital platforms — are examined in turn below.

5.2.1 Changing perceptions of language (post-MOOC Q4)

When asked whether the MOOC had changed their perception of what constitutes a language, 46.9% (n=92) answered affirmatively and 53.1% (n=104) said it had not. Analysis of the 105 open-ended comments reveals three patterns: the largest group (37.1%, n=39) reported a genuine broadening of their conception of language beyond alphabetic and

phonetic models to include visual, symbolic, and culturally embedded forms; a second group (31.4%, n=34) reported no change, often due to prior familiarity with diverse linguistic systems; and a third group (26.7%, n=28) noted enrichment without a fundamental shift in framework.

These results should be read in light of the particular challenge this question poses for learners whose primary experience is with alphabetic systems. Western intellectual tradition has long privileged speech over writing [De Saussure et al. 1922]. For most participants, encountering a script like Dongba — which functions as an autonomous ideographic system independent of phonetic transcription — represents a genuine conceptual challenge. Or we can say that a similar course in any unfamiliar writing system might run up against the same challenges. A smaller group (11.4%, n=12) questioned whether the MOOC addressed “language” at all, focusing on its emphasis on script rather than spoken Naxi. This response itself may reflect an internalised speech-centred framework — one that a script like Dongba, functioning outside the logic of phonetic transcription, quietly unsettles. That nearly half of all respondents reported a shifted perception, and that the course prompted reflection even among those whose views did not fundamentally change, suggests that this encounter with an autonomous writing system had genuine cognitive value. An analogy may help to explain in that Western learners have a qualitatively different experience learning Chinese than Latin-script languages because Chinese script functions in a different and more complex way than Latin.

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5.2.2 Universities and endangered language teaching (post-MOOC Q3)

These shifting perceptions also surface a broader question about institutional responsibility: Should universities offer teaching in endangered languages and scripts? The 138 written comments reflect a clear conviction that they should. Respondents emphasised universities' active responsibility to safeguard linguistic and cultural diversity — framing language loss as a threat to humanity's collective heritage (44%, n=61) — and highlighted the scientific and academic relevance of endangered languages to disciplines such as linguistics, anthropology, and history (25%, n=34). Further themes included intellectual and cultural enrichment (30%, n=41), institutional duty of transmission (20%, n=28), and personal and cognitive benefits (14%, n=20). The minority who expressed reservations questioned the delivery mechanism rather than the underlying premise, leaving the argument for institutional responsibility largely intact.

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5.2.3 MOOCs as a preservation tool (post-MOOC Q5)

It is within this framework of institutional responsibility that participants' assessment of the MOOC format becomes most meaningful. In response to whether MOOCs can contribute to the preservation of endangered languages, 95% of the 187 respondents answered affirmatively. The 125 open-ended comments identified five complementary functions: reaching global audiences otherwise disconnected from such content (40%, n=42); raising awareness and stimulating curiosity, with many describing the course as a “gateway” or “starting point” (36%, n=38); serving as a lasting digital record supporting intergenerational transmission (18%, n=19); offering a scalable and adaptable format (14%, n=15); and — crucially — acknowledged limitations, including the absence of oral practice and direct cultural immersion (11%, n=12), signalling that MOOCs are best understood as one component within a broader preservation ecology.

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The “gateway” framing spontaneously adopted by 36% of respondents directly echoes the finding in 5.1 that the course functioned as a first point of meaningful contact rather than a comprehensive transmission mechanism. Taken together, these responses suggest that the Dongba MOOC extended well beyond script instruction: It prompted participants to reflect on the nature of language, the responsibilities of educational institutions, and the role of digital platforms in cultural preservation — demonstrating that MOOCs can cultivate advocates as much as learners.

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5.3 How did the participants engage in forum discussion?

The Dongba MOOC featured eight discussion forums: a general forum, a feedback forum, and six module-specific forums with preset questions related to each module's themes. Module forums were offered in four languages to facilitate communication, and three forum tutors supported discussions. Table 7 provides an overview of participation across all forums.

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Forum	Discussion topics (threads)	Messages	Views				
General discussion	89 (all languages)	404	7,937				
Module 77 forums (in 4 languages)	Forum discussion (M2)	15 (French)+1(Chinese)=16	55	87	299	1,312	4,563
	Forum discussion (M3)	12 (French)		62		973	
	Forum discussion (M4)	10 (French)		49		835	
	Forum discussion (M6)	6 (French)+2(Chinese)=8		62		295	
	Forum discussion (M5)	4 (French)		19		765	
	Forum discussion (M7)	4 (French)+1(Chinese)=5		20		383	
Help us improve this MOOC	10 (French)	45	642				
Total	156	727	13,142				

Table 7. Engagement of forum discussion in the first run of the Dongba MOOC (2023)

Overall, the forums generated 156 threads, 727 messages, and 13,142 views. This aggregate figure, however, requires closer examination: While 80% of post-course respondents reported not participating in forum discussions, the 13,142 views suggest a substantial level of passive engagement that the survey data alone could not capture — reading without posting, observing without contributing. The general forum dominated activity — 89 threads, 404 messages, and 7,937 views, nearly double the combined total of all module forums — while M5 and M7 attracted comparatively little engagement. The language distribution is particularly striking: With the exception of a handful of Chinese-language posts in M2, M6, and M7, all forum activity was conducted in French, a pattern whose implications are examined in section 5.4.

The content distribution of the general forum (Table 8) reveals an instructive asymmetry: “Dongba Script & Language and Content & Learning Materials” generated the highest reply counts, reflecting strong intellectual investment in the course content, while “Technical & Navigation” threads attracted the most views but fewer replies — suggesting passive consultation rather than dialogue. Most tellingly, “Pedagogical Design & Feedback” produced only 4 threads and 22 replies, the lowest of any category. This near silence on pedagogical matters is significant: It may reflect a broader

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tendency in MOOCs for learners to engage more readily with content than with metacognitive or pedagogical reflection. [Waite et al. 2013] note the prevalence of passive participation in open online courses, while [Shah et al. 2022] suggest that sustaining more reflective forms of engagement requires deliberate scaffolding that the forum structure in this case may not have provided..

Categories	Discussion topics (threads)	Replies	Views
Dongba Script & Language	18	54	1,746
Content & Learning Materials	10	60	1,597
Technical & Navigation	17	49	1,826
Community & Social Topics	12	38	874
Quizzes, Certificates & Badges	13	30	514
Pedagogical Design & Feedback	4	22	431

Table 8. Discussion content topics in general forum

The module forums reveal a more fundamental tension. Although preset questions were provided, only 5 of 55 threads responded to them directly, while 16 were learner-initiated (Table 9). The topics these learners chose — ranging from the gendered dimensions of Naxi society to the hereditary nature of Dongba knowledge — reveal a community actively bringing its own intellectual frameworks to the material rather than following prescribed lines of inquiry. [Shah et al. 2022] observe that learner-centric forum design tends to produce more sustained and meaningful engagement than instructor-designed prompts, a finding this data appears to confirm. But the implication runs deeper: The disproportion between preset and learner-initiated threads suggests that the most intellectually generative discussions in this MOOC were those the course designers had not anticipated. This points to a productive tension in MOOC design between structure and openness — one that future iterations might address by building in more explicit space for learner-driven inquiry from the outset.

Categories	Selected topic examples (Translated to English)
Content & Learning Materials	1) Reading and writing (with many shared images) 2) The months (script composition) 3) How to draw a cat (in various postures), Bees, The 12 zodiac animals 4) Proverb in Dongba script
Dongba Script & Language	5) On the pictogram for "father", Linguistic and conceptual comparison between Naxi and alphabetic languages 6) Influence and interpretation of seasonal scripts 7) Writing attempt, Impact of Dongba paper on writing and preservation 8) Colour in Dongba writing
Pedagogical Design & Feedback	9) Multilingualism in schools, Dongba cultural transmission and digital tools 10) Bilingualism (discussion prompt)
Community & Social Topics	11) On the role of women? 12) Man or human? The place of Naxi women 13) Naxi culture, Dongba script and children, New Year among the Naxi
Religion & Cultural Practices	14) Is Dongba knowledge hereditary, selected, or voluntary?, Nature of Dongba religion, its transmission and current situation, 15) Do Dongba dances include singing? 16) Naxi Trilogy

Table 9. Module forum discussion topics

The near-exclusive use of French across all forums raises a structurally significant issue that cuts across these findings.

Despite the course's multilingual design, the forum data reveal that plurilingual content provision did not translate into plurilingual interaction — a distinction with important implications examined in section 5.4.

5.4 How did learners perceive the multilingual interface?

The forum data from section 5.3 reveal a paradox at the heart of the Dongba MOOC's multilingual design: Despite instructional content being offered in four languages, forum interaction remained almost exclusively in French, and of course in the Latin alphabet. Understanding this paradox requires attending to several interrelated factors: the platform's own linguistic constraints, the forum's navigational design, and the role of human mediation.

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A structural limitation must first be acknowledged: While the course content was available in four languages, the FUN platform itself operates exclusively in French. This created an asymmetry from the outset — non-francophone learners encountered a multilingual course embedded within a monolingual platform infrastructure, which may have discouraged participation before any forum interaction began. Compounding this, the forum navigation was not always user-friendly, creating an additional barrier for learners unfamiliar with the platform's architecture. The presence of three dedicated multilingual online tutors, whose active facilitation helped sustain dialogue across the course, may have played an important role in compensating for these structural constraints — though the extent of their contribution to forum activity cannot be determined from the available data alone.

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The tension surfaced explicitly in one forum discussion, where a participant criticised the multilingual approach as “absurd,” expressing a preference for quizzes in their native language only. The remark prompted two threads involving 11 participants: Most defended the design, emphasising its role in widening participation and fostering cultural exchange, while others noted technical and navigational challenges. This polylogue is analytically revealing not so much for its outcome — a majority defending plurilingualism — but for what it exposes: That the rationale for a multilingual design was not sufficiently communicated from the outset, leaving it vulnerable to being experienced as complexity rather than inclusivity. It also points to a broader opportunity: As machine translation becomes increasingly capable, future MOOC designs could integrate real-time translation tools to enable learners to contribute in their own language — transforming multilingual design from a structural aspiration into an interactive reality.

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This risk has been theorised by [Adam 2019] in terms of “digital neocolonialism” — the imposition of dominant linguistic frameworks onto diverse learner communities under the guise of inclusivity. The Dongba MOOC's case adds a further nuance: The dominant language was not English but French, the platform's host language, suggesting that digital linguistic hierarchies are not simply global but also institutional and infrastructural. The participant who found the multilingual interface “absurd” may have been expressing not resistance to diversity, but discomfort with an unfamiliar navigational logic — one that the course architecture did not sufficiently scaffold.

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The deeper implication is that multilingual content provision and multilingual interaction are fundamentally distinct goals. Offering content in four languages addresses access, but it does not automatically generate cross-linguistic dialogue. Technically, the tools to enable such dialogue already exist or are within reach (e.g. real-time translation, AI-assisted moderation, multilingual threading) yet current MOOC platforms have been slow to integrate them. Achieving the latter would require more deliberate design strategies (e.g. multilingual discussion prompts, designated language-crossing spaces, or facilitated translation) that treat interaction, not merely content, as the site of plurilingual practice. The experience of the Dongba MOOC suggests that human mediation, in the form of multilingual tutors, remains indispensable in bridging this gap and that platform-level multilingualism is a necessary but insufficient condition for genuinely inclusive participation.

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5.5. How did participants respond to the “citizen science” task of identifying Dongba manuscripts, and to what extent did it engage them in heritage preservation efforts?

In the Dongba MOOC, learners were invited to participate in a citizen science-style activity — what [Sharples 2019] terms crowd learning — designed to connect online learning with real-world cultural preservation (Figure 2). The task asked participants to identify and share Dongba manuscripts by locating resources in libraries, museums, and digital platforms worldwide.

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While the initiative was widely appreciated, active engagement was limited: Only ten individuals — all based in France — publicly contributed, with no visible participation from learners in China, Germany, the UK, or the USA. The numbers were small; the quality of engagement, however, was remarkable. They cited collections from institutions such as Gallica (BnF), the Musée Guimet, the EFEO, the Library of Congress, and the Internet Archive of Cambridge University; some contributed photographic documentation and even contacted regional museums directly. The ten who did participate publicly engaged in a form of cultural stewardship that extended well beyond typical MOOC behaviour — actively locating, documenting, and sharing heritage materials across institutional boundaries. Their contribution should not be overshadowed by the low overall numbers; rather, it points to what extent this kind of task can achieve when conditions for participation are right.

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Sharples' concept of crowd learning emphasises that the value of participatory tasks lies not only in the content produced but in the experience of contribution itself — the sense of being a meaningful actor in a shared cultural project [Sharples 2019]. From this perspective, the task's most significant achievement may not be the manuscript citations collected, but the shift it enacted in learners' relationship to the script: from passive recipients of cultural knowledge to active participants in its documentation and preservation. This extends the “gateway” dynamic identified in 5.1 from learning about the script to actively acting on its behalf.

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Mission: A la recherche de manuscrits Dongba / Mission: Searching for Dongba scriptures / 学习任务：寻找东巴经 / Mission: Auf der Suche nach Dongba-Manuskripten

Poster une réponse

Hello Everyone,

After several weeks of study, you learned that the Dongba scriptures are the classics of Dongba religion, a primitive religion unique to the Naxi people. It records philosophy, history, religion, astronomy, folklore, literature, medicine, and other disciplines. These scriptures are the encyclopedia of Naxi people. Nowadays, there are over 40,000 volumes of the existing Dongba Classic, including more than 1,000 different categories. In addition to the scriptures collected in Chinese domestic museums and by private collectors, a large number of Dongba scriptures are scattered all over the world.

The MOOC team would like to invite everyone to join in the mission of finding the Dongba scriptures. Let's try to find collections or presentations about the Dongba scriptures in museums, libraries, or websites in your country, your city, or even in a flea market, and then, you can share your discoveries in this discussion.

We hope that with your participation, more people will have the opportunity to see different Dongba scriptures or receive information about the collection of Dongba scriptures.

We look forward to your sharing!

MOOC team

Figure 2. Screenshot of the mission description from the MOOC interface on the FUN platform.

5.6 Did participants continue to interact with the Dongba script after completing the course?

Post-course data suggest that for at least a handful of participants, the Dongba MOOC functioned not as a discrete learning event but as a cultural threshold experience — one that repositioned the script from an unknown object to a personally meaningful one. This sustained engagement took three forms: academic, creative, and professional. Two master's students at the University of Geneva wrote their theses on the Dongba script; three expressed a desire to study in Lijiang, where the script is still used by Dongba priests. At least five graphic designers incorporated Dongba symbols into their work, and three shared their outputs on platforms such as LinkedIn, extending the script's presence into professional networks.

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The production of two master's theses is particularly significant: It indicates that the MOOC succeeded in expanding the small academic community engaged with Dongba studies. More broadly, the migration of script learning into creative and professional practice illustrates a form of cultural diffusion that carries the script beyond its traditional ritual context and beyond the boundaries of the course itself.

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Fieldwork conducted in Lijiang in August 2023 added a further dimension: Many local Naxi people were aware of the MOOC and expressed appreciation for the international interest it had generated, suggesting that the course's reach extended beyond its registered participants in ways that questionnaire data alone cannot capture.

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These findings resonate with the concept of the “script-keeper,” an individual who, without necessarily being a heritage speaker or trained scholar, takes on a personal commitment to learning, using, and transmitting an endangered writing system [Brookes 2024]. The Dongba MOOC appears to have cultivated several such figures, suggesting that digital platforms can contribute not only to awareness-raising but to the formation of new kinds of cultural stewardship — a modest but non-trivial contribution to the broader ecology of script revitalisation.

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5.7 Naxi community engagement: Participation barriers and future directions

The findings from sections 5.3 to 5.6 consistently point to a structural tension at the heart of the Dongba MOOC: While the course successfully reached an international audience of culturally motivated learners, it remained largely inaccessible to the community whose heritage it sought to engage. This section examines why, and what this reveals about the structural factors shaping participation — the central concern of RQ2 directly: What forms of community connection emerged through the MOOC, and what factors shaped or limited participation from the Naxi community itself.

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The pre-launch testing offers a crucial starting point. More than 10 Naxi volunteers reviewed the course content and unanimously affirmed its value — including for community insiders, given the absence of any comparable entry-level resource on the Dongba script within the community itself. This finding is analytically significant: It establishes that limited local participation during the formal run cannot be attributed to the course design or its perceived relevance, but to structural barriers operating outside the course itself.

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Two such barriers stand out. The first is platform inaccessibility: The FUN platform operates exclusively in French, creating a fundamental obstacle for Chinese-speaking learners. Several mitigation strategies were implemented — a promotional video produced by a Naxi volunteer, publicity through institutional WeChat accounts, and parallel hosting on Chinese MOOC platform XuetangX(学堂在线) — but each proved insufficient. The XuetangX version lacked the interactivity and discussion features central to the course's pedagogical design, effectively reducing it to a static archive. The second barrier is institutional: The absence of a formal partner in Yunnan Province limited the course's visibility and uptake in the very region where the Dongba script remains most actively practised.

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The two Naxi participants who completed the post-MOOC questionnaire provide a rare emic perspective on these barriers. One pointed to the lack of full multilingual subtitles and unclear navigation; the other reported that the course deepened their understanding of the script despite prior familiarity — suggesting that even community insiders stand to benefit from a structured pedagogical approach. This insight was reinforced during the 2023 Lijiang fieldwork, when I met one of these participants in person. She confirmed that the course content had been well received locally, but that the absence of a Chinese-language platform interface remained the main barrier to wider participation. The survey data likely underestimates the course's true impact within the Naxi community, much of which unfolds informally and is difficult to quantify.

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A further constraint should be acknowledged: The course was developed during and immediately following the COVID-19 pandemic, which prevented planned fieldwork and limited the development of community partnerships that meaningful co-design requires. This is not offered as an excuse, but as context — and as a reminder that the conditions for genuine co-design must be built before a course is designed, not retrofitted afterward.

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Future iterations should prioritise direct collaboration with local institutions and cultural organisations already engaged in Dongba transmission — such as the summer training programmes active in the Lijiang region — and invest in the trust-building that sustained partnership demands. Reaching the Naxi community is not simply a matter of translation or

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platform adaptation; it requires the kind of long-term relational engagement that no single course run can achieve alone.

These barriers also raise a broader question beyond platform design. Digital preservation initiatives developed in the Global North and directed at heritage communities in the Global South risk reproducing, however unintentionally, a familiar asymmetry: External actors arrive with tools and good intentions, but sustained transformation requires extended presence, local ownership, and community-led co-design [Adam 2019]. A MOOC, however well-designed, can at best be a foot in the door. The more important question may be what comes next.

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Conclusion and Perspectives

This case study has examined the Dongba MOOC's first run as a bounded instance of MOOC-based endangered script outreach. In response to RQ1, the course successfully attracted an internationally diverse, highly educated audience with strong intrinsic motivation, achieving a completion rate more than double the global MOOC average and generating sustained post-course engagement across academic, creative, and professional domains. In response to RQ2, while the course created meaningful opportunities for global community connection and knowledge exchange, broader participation — particularly from the Naxi community — was constrained by structural factors: platform inaccessibility for Chinese-speaking learners and the absence of institutional partners in Yunnan Province, rather than any lack of motivation or perceived relevance.

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These findings generate four questions for future investigation:

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1. What outcomes can MOOC-based endangered script education plausibly produce, and over what timescale?
2. How can MOOC design more effectively bridge international awareness-raising and local community engagement?
3. What is the comparative value of different digital tools in the broader ecology of script preservation?
4. How can participatory tasks be designed to overcome barriers of language, confidence, and platform familiarity?

Across these questions, the formation of script-keepers — individuals who develop a sustained personal commitment to an endangered writing system [Brookes 2024] — emerges as a more realistic near-term outcome than community-level revitalisation, and deserves closer investigation.

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The Dongba MOOC illustrates both the promise and the structural constraints of digital platforms for endangered script outreach. Its findings suggest that open online courses can attract genuinely motivated learners and generate meaningful engagement, but that reaching communities for whom the script is a living heritage requires more than accessibility alone — it requires sustained partnership, platform adaptation, and long-term community co-design. This, in turn, raises a broader question about the role of universities in endangered language and script education. As one participant put it, universities are “des lieux d'ouverture à la connaissance et à l'autre, pas seulement des lieux où l'on se prépare à une carrière professionnelle” — places of intellectual openness, not merely professional training (participant response, original in French). This suggests that universities may have a distinctive role to play in sustaining initiatives like this one beyond the level of public awareness.

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Beyond institutional questions, the case ultimately returns to a more fundamental motivation. As one participant observed, “We only protect what we love, and we only love what we know.” The task of digital heritage education is, at its most fundamental, the task of making the unknown knowable — and the knowable, lovable. This case study suggests that MOOCs can play a meaningful role in that process, provided they are understood as starting points rather than solutions.

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Appendix

- Pre-MOOC questionnaire
- Post-MOOC questionnaire
- Five additional questions for pre-MOOC Questionnaire
- Do you know any writing systems other than your own? If so, which ones? Please write your answer here:

- Apart from your mother tongue, do you speak any other language(s)? If so, please choose all that apply: German / English / Chinese / Spanish / French / Italian / Japanese/ Portuguese Other: _____
- What is your motivation for taking this MOOC? Please choose all that apply: the originality of the writing system / the Dongba religion / the comparison with other archaic scripts / the perspective of a trip to the Naxi region in China / ethnic customs and traditions / Other: _____
- Can a language be approached solely through one of its two sides, oral and written? Briefly justify your answer. Choose one of the following answers: Yes/No / I don't know / Make a comment on your choice here:

- Do you think it is useful to learn an endangered language? Choose one of the following answers: Yes/No / I don't know / Make a comment on your choice here: _____
- Five additional questions for Post-MOOC Questionnaire
- If a MOOC on Dongba script is offered in the future, would you consider enrolling? Choose one of the following answers. Please choose only one of the following: Yes/No/I don't know
- Would you like to learn the Naxi language? Choose one of the following answers. Please choose only one of the following: Yes/No /I don't know
- Do you think that universities need to offer the teaching of endangered languages? Briefly justify your answer. Choose one of the following answers: Yes/No / Make a comment on your choice here: _____
- After following this MOOC, has your perception of what constitutes a language^[3] changed? Briefly justify your answer. Choose one of the following answers: Yes/No / Make a comment on your choice here: _____
- Can a MOOC be useful for the maintenance and preservation of an endangered language and culture? Briefly justify your answer. Choose one of the following answers: Yes/No / Make a comment on your choice here: _____

Question	Answer
Which is your country of residence?	• France (283, 71.46%) • China (20, 5.05%) • Belgium (13, 3.28%) • Switzerland (10, 2.53%) • United States (9, 2.27%) • Spain (7, 1.77%) • Italy (7, 1.77%) • Germany (5, 1.26%) • Canada (5, 1.26%) • Brazil (4, 1.01%) • Japan (4, 1.01%) • Austria (3, 0.76%) • Mexico (3, 0.76%) • Réunion (2, 0.51%)

	• Poland (2, 0.51%) • United Kingdom (2, 0.51%) • others (1, 0.25%): Saudi Arabia, South Korea, United Arab Emirates, Ecuador, Estonia, Guadeloupe, Guinea, Hungary, India, Indonesia, Madagascar, Martinique, Singapore, Taiwan, Tunisia, Vietnam, and Wallis and Futuna
Indicate your gender	• Female (294,74%) • Male (93,23%) • Other / Not Specified (9, 3%)
What is your birth year?	• 10–20 (4, 1%) • 20–30 (67, 17%) • 30–40 (47, 12%) • 40–50 (70, 18%) • 50–60 (78, 20%) • 60–70 (82, 21%) • 70–80 (39, 10%) • 80–90 (9, 2%)
What is the highest degree or level of school you have completed?	• Master or equivalent (191, 48.23%) • Doctoral or equivalent (61, 15.40%) • Bachelor or equivalent (55, 13.89%) • Upper secondary education (42, 10.61%) • Short-cycle tertiary education (16, 4.04%) • Postsecondary non-tertiary education (15, 3.79%) • Other academic training (9, 2.27%) • Lower secondary education (5, 1.26%) • No academic training (2, 0.51%)
What is your mother tongue?	• French (315, 79.55%) • Chinese (28, 7.07%) • Spanish (10, 2.53%)

	• German (10, 2.53%) • Italian (7, 1.77%) • English (5, 1.26%) • Portuguese (4, 1.01%) • Naxi language (4, 1.01%) • Other (12, 3.03%) Indonesian, Javanese, Tamil, Arabic, Dutch, Creole, Greek, Polish, Malagasy, Hungarian
Are you currently...?	• Employed (52%) • Retired (20%) • A student (12%)
I chose to take this MOOC because...	• I did it on my own initiative (395,99.75%) • A teacher advised us to follow it, but it was not mandatory (1,0.25%) • It was a mandatory part of my university course (0)
Is this your first MOOC?	• No (285, 71.97%) • Yes (111, 28.03%)
Why are you interested in this MOOC?	• Because I enjoy learning new things (84%) • Because I am particularly interested in this topic (54%) • It is a personal challenge to complete this course (21%)
What is your "level" on the subject of this MOOC?	• Beginner (94%) • Intermediate (5%)
How many hours per week do you expect to spend working on the MOOC?	• 2h - 3h (145, 36.62%) • 1h - 2h (141, 35.61%) • 4h - 5h (71, 17.93%)

	• Less than 1 hour (22, 5.56%) • More than 5h (17, 4.29%)
Do you plan to watch the videos?	• All of them (253, 63.89%) • Most of them (111, 28.03%) • Some of them (28, 7.07%) • Half of them (4, 1.01%)
Do you intend to do the activities (quizzes, homework, exams)?	• All of them (209, 52.78%) • Most of them (144, 36.36%) • Some of them (35, 8.84%) • Half of them (8, 2.02%)
How much do you plan to contribute to the "social" elements of MOOC (forum, wiki, video chats, peer assessment...)?	• Some of them (271, 68.43%) • Half of them (15, 3.79%) • Most of them (88, 22.22%) • All of them (22, 5.56%)
Do you aim at getting the honor code certificate for this MOOC (for free)?	• That's not my initial goal but I would be satisfied to get it (271, 68.43%) • Yes, surely (103, 26.01%) • No (22, 5.56%)
Would you be interested in receiving a paid-for certificate of completion on this subject?	• No (302, 76.26%) • Yes, if it costs less than 50 euros (64, 16.16%) • Yes, even if it costs between 50 and 80 euros (20, 5.05%) • Yes, even if it costs 80 euros (10, 2.53%)
In the next week, how confident are you that you will be able to study the number of hours you intend to?	• Very confident (171, 43.18%) • Extremely confident (103, 26.01%) • Neither confident nor unconfident (102, 25.76%)

	• Somewhat confident (17, 4.29%) • Extremely unconfident (3, 0.76%)
Do you intend to follow another MOOC on this topic?	• Maybe (227, 57.32%) • No (86, 21.72%) • Yes (48, 12.12%)
If you intend to follow another MOOC, could you specify why?	N=149, 48.06% response rate • Desire to deepen knowledge, take advanced or complementary courses (55, 36.9%) • Interest in culture, language, history, and specific subjects (46, 30.9%) • General curiosity, intellectual pleasure, love of learning (44, 29.5%) • Discovering new themes, expanding knowledge and culture (20, 13.4%) • Diplomas, teaching, career improvement, research interests (18, 12.1%) • Time availability, free learning, flexibility, MOOC format (12, 8.1%) • Doubt, conditional interest depending on experience or format (11, 7.4%) • Concern for preserving endangered languages and cultural heritage (8, 5.4%)

Table 10. Key results from the pre-MOOC questionnaire (n=396)

Question	Answer
How satisfied have you been with this MOOC?	• Extremely satisfied (139, 70.9%) • Satisfied (55, 28.1%) • Unsatisfied (2, 1.0%)
Did you have the opportunity to be as involved in this MOOC as you had planned?	• Yes, totally (97, 49.5%) • Yes, mostly (88, 44.9%) • No, not really (11, 5.6%)

In your opinion, is the effort to be delivered matching what was announced in the MOOC's description?	• Yes, surely (101, 51.5%) • Yes, probably (84, 42.9%) • No, not really (8, 4.1%) • No, not at all (3, 1.5%)
What is your "level" on the subject after following this MOOC?	• Beginner (101, 51.5%) • Intermediate (87, 44.4%) • Advanced (7, 3.6%) • Expert (1, 0.5%)
How many hours per week did you spend on the MOOC?	• 1h to 2h (84, 42.9%) • 2h to 3h (68, 34.7%) • 4h to 5h (21, 10.7%) • Less than an hour (17, 8.7%) • More than 5h (6, 3.1%)
Given the time you invested, are you satisfied with what you have learned?	• Yes, surely (136, 69.4%) • Yes, probably (59, 30.1%) • No, not really (1, 0.5%)
Did you participate in the collaborative activities (forum, wiki, lives, peer assessment, group assignments...)?	• No, not at all (81, 41.3%) • No, not really (77, 39.3%) • Yes, most of them (33, 16.8%) • Yes, all of them (5, 2.6%)
Will you recommend this MOOC to friends or colleagues?	• Yes, surely (109, 55.6%) • Yes, probably (68, 34.7%) • No, not really (18, 9.2%) • No, not at all (1, 0.5%)
Will you be able to practice or apply what you have learned?	• Yes, probably (83, 42.4%) • No, not really (68, 34.7%) • Yes, surely (32, 16.3%)

	• No, not at all (13, 6.6%)
Did you obtain a free certificate of participation for this MOOC?	• Yes, totally (123, 62.8%) • It was not my initial goal but I got it and I'm satisfied (65, 33.2%) • No, it was not my initial intent (7, 3.6%) • No, I did not finally get one (1, 0.5%)
What use will you make of this certificate of completion or participation?	• Getting the certificate is enough for me (61, 49.6%) • Add it on my resume (26, 21.1%) • Archive it alongside my diplomas (21, 17.1%) • Share it on social networks (14, 11.4%) • Communicate it to my employer (1, 0.8%)
Do you intend to follow another MOOC?	• Maybe (89, 45.4%) • Yes, on that topic (50, 25.5%)
Do you have any other comments, feedbacks or improvement suggestions for us?	N=46 Apart from the strong appreciation and gratitude, the comments can be classified as follows: • Desire for more – Many expressed interest in follow-up content or deeper exploration. (19) • Clearer instructions – Some users found the navigation and task instructions unclear. (13) • More grammar and pronunciation – Requests for more linguistic context, especially regarding

- grammar and pronunciation. (9)
- Interactive exercises –
Suggestions for additional writing and review exercises. (6)
- Audio support – A need for audio features to assist in learning characters. (4)
- Better platform design –
Feedback on improving the UI and overall structure. (9)
- Expand to other languages –
Interest in extending the content to other endangered languages. (3)

Table 11. Key results from the post-MOOC questionnaire (n=196)

Notes

[1] The Naxi religion and its priests are both known as “Dobbaq,” Chinese “Dongba” which is either derived from the Tibetan ston pa, meaning “teacher” (according to [Rock 1963, 87], or the Tibetan Bonpo, from whom the dongba ritualists likely inherited many ritual manuscript traditions [Poupard 2019].

[2] The number was provided by Prof. Yang Yihua, according to the results of her recent unpublished field research.

[3] We use the term *language* because it encompasses both spoken language and writing systems.

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