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Toward an Artificial Intelligence-Assisted Nonprofit Support Network for Rural Art Teachers: A Qualitative Needs Assessment

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Abstract. Nonprofit arts education programmes can expand children's access to art classes in underserved rural schools, but sustained access depends on teachers receiving meaningful, ongoing professional support. Nonprofits generally provide curricula, materials, volunteers and brief training, but these time-limited inputs may not address situational problems after visitors leave. Generative artificial intelligence (AI) may provide low-cost, ongoing teacher support, but raises concerns about accuracy, teacher autonomy, privacy and protecting minors. This study identifies the support rural art educators need, existing gaps and how a nonprofit support network could respond. It presents a qualitative needs assessment of a long-term rural arts education initiative in Guizhou, China, which involved semi-structured interviews with six rural art teachers in two schools, observation of ten art lessons, and documentation of the programme. Participants described needs as task-specific rather than abstract skill deficits. They valued current nonprofit provision but found it discontinuous; expectations of digital and AI tools centred on ease of use, offline availability, cultural fit and workload reduction. The paper then proposes a network in which the nonprofit coordinates, teachers are the main users and decision makers, and AI is used for low-risk tasks such as resource retrieval, drafts for teacher editing and summarising for reflection. The contribution is a needs-based design model requiring human oversight. The platform has not yet been piloted, so no teacher or student outcomes are claimed.

Keywords: rural art teachers, nonprofit support, teacher professional learning, AI-assisted support tool, qualitative needs assessment

1. Introduction

Art education offers children a legitimate space to represent experience in forms other than words, and to have those choices taken seriously by an adult; Eisner's account of the arts as a distinctive mode of cognition remains the clearest statement of why this matters educationally rather than decoratively [1]. In rural and remote schools, access to that space is rarely secured by policy or budget alone. It depends on whether a particular teacher, often teaching several subjects, can turn curricula, materials or volunteer visits arriving from outside into something that happens week after week. External inputs do not teach lessons; teachers do. The constraint is global in scale: the United

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Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Task Force on Teachers for Education 2030 project a shortfall of 44 million primary and secondary teachers by 2030, with acute shortages in low-income regions and retention problems even in high-income systems [2]. Where staffing is thin, non-exam subjects such as art are typically absorbed by teachers whose training lies elsewhere, and studies of rural teaching consistently document professional isolation, limited training provision and an expanding burden of pastoral responsibility [3, 4].

Nonprofit organisations have become significant actors in this gap, supplying lesson packages, materials, visiting volunteers and short training events to schools that would otherwise offer little structured art provision. The difficulty is not the value of these contributions but their shape over time: programmes are typically judged by lessons delivered, schools reached and teachers trained, metrics that capture the volume of input rather than whether it entered a teacher's continuing practice. Research on professional development points the other way. Desimone identifies content focus, active learning, coherence with context, sustained duration and collective participation as the features that separate professional development which changes practice from professional development which is merely attended [5], while Opfer and Pedder argue that teacher learning is a system of interacting conditions rather than an event with a dose and a response [6]. Reviews of professional learning communities, and studies of facilitated virtual communities in rural school systems, similarly find that collaboration yields gains when it is embedded in shared work over time rather than delivered once and withdrawn [7, 8]. The implication is that a nonprofit programme seeking durable effects must move from supplying resources to sustaining a support relationship.

That is precisely where generative artificial intelligence (AI) becomes relevant, because distance, expert time and the cost of follow-up visits are the practical reasons continuity is hard to maintain, and asynchronous tools address those constraints directly. Experimental evidence suggests that generative AI can improve lesson-planning efficiency, while also identifying challenges in content personalisation, usability and iterative refinement [9]. The caveats are substantive. Using such tools well presupposes AI competencies that many teachers have not had opportunities to develop [10]; international guidance treats human oversight, age-appropriate design and data protection as conditions of legitimate classroom use rather than optional extras [11, 12]; and where minors' emotional lives are involved, child-rights guidance requires safety, privacy, transparency and accountability by design [13]. Whether any of this is feasible also depends on surrounding conditions such as infrastructure, digital content, policy guidance and technical support, which cannot be assumed in rural schools [14]. AI is therefore not a remedy for structural under-resourcing; its value depends on how it is positioned within a human support arrangement with clear responsibility boundaries.

These literatures have evolved mostly in isolation, and a systematic review of AI in teaching and teacher professional development shows that both the research and provision focus on applications that impact students and learning institutions, with less attention paid to how AI support relates to teachers' own expressed needs [15]. Work on arts and children's wellbeing, meanwhile, describes socio-emotional potential while acknowledging uneven evidence quality [16, 17]. What remains largely unexamined is the intersection: how support needs that rural art teachers themselves articulate might be translated into an arrangement a nonprofit organisation could actually operate. This paper does not test whether AI improves teaching or student outcomes; its aim is more preliminary: to establish an evidence-based link between expressed needs and design requirements.

The study draws on a rural arts education programme run by a nonprofit organisation in Guizhou, China, in which the researcher has participated since 2019, with two rural primary schools forming

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the case boundary. It asks what support needs rural art teachers experience in art teaching, professional learning and student care; how existing school and nonprofit arrangements address these needs and where gaps remain; and how an AI-assisted nonprofit support network could be designed to provide continuous, context-sensitive and teacher-centred support. The paper sets out its conceptual framework and methods, presents three findings, and derives the proposed network and outlines directions for piloting and evaluation.

2. Conceptual and analytical framework

2.1. Teacher professional learning as situated practice

The first premise of this study is that professional capability is not transferred at a training event and then possessed. Opfer and Pedder describe teacher learning as emerging from the interaction of individual orientations, school-level practices and the learning activity itself, which means the same workshop can produce learning in one setting and nothing in another [6]. Desimone's account is compatible and more operational: professional development is more likely to change practice when it is focused on specific content, involves active engagement rather than passive receipt, coheres with the teacher's existing knowledge and school priorities, extends over time, and involves colleagues collectively [5]. Kennedy's review similarly emphasises that professional development effects depend on how programmes help teachers enact new ideas within their ongoing practice [18].

In this study, these ideas are translated into analytical questions about the fit and persistence of support rather than its level. Does the support meet the tasks that art lessons actually require — planning with limited materials, planning a mixed-ability lesson, responding to a child who does not want to participate? Can teachers experiment, collect feedback and fine-tune? Is there any support remaining at the end of the visiting period? These questions are used in the analysis of teachers' needs and their perceptions of what they received previously.

2.2. Collaborative and networked support

The second premise is that the relevant unit of support is a network rather than a dyad of provider and recipient. Research reports benefits to practice from professional learning communities when they involve time, organisational support and mutual participation to make shared work possible – which is not necessarily one-way transfer of expertise [7]. Wenger's account of communities of practice explains why: learning is bound up with participation and identity within a group that shares a domain of concern, not merely with information exchange [19]. Recent evidence from primary schools indicates that professional learning communities are associated with teacher performance where they are institutionally supported [4], and studies of virtual communities of practice in rural school systems find that geographically dispersed staff report reduced isolation, a sense of belonging and greater willingness to exchange ideas when a facilitated online space exists [8].

For this paper, the implication is that a nonprofit organisation is best understood as a coordinator of relationships — between schools, teachers, university and professional experts, and technical providers — and as the party responsible for keeping a feedback channel open over time. This framing informs how responsibilities are allocated in the proposed network.

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2.3. Human-centred and teacher-led AI

The third premise sets the boundaries for the technology. UNESCO's guidance on generative AI in education and research adopts a human-centred position in which AI must strengthen, not displace, human agency and accountability, and in which age-appropriateness and data protection are prerequisites for classroom use [11]. The corresponding competency framework for teachers assumes that teachers will interrogate AI outputs, recognise their limitations, protect data, and adapt suggestions to particular classes rather than adopting them wholesale [12]. Subsequent UNESCO analysis specifically frames teacher agency as something to be actively promoted and protected as AI tools enter schools, and calls for system-level oversight of the tools made available to teachers [10]. Child-rights guidance further specifies requirements that are key to any tool that works close to children's emotional lives: safety by design, protecting data and privacy, transparency and explainability, and accountability [13].

Taken together, these documents support a deliberately restricted role for AI in the design proposed here. AI sits as an assistance layer facing teachers, handling resource organisation, draft generation, differentiation suggestions and reflection summaries. Judgements about individual children — whether a child is struggling, what should be done, whether a referral is needed — remain with teachers and qualified professionals. Four design criteria follow from this section and are used later to structure the proposal: teacher agency, human oversight, contextual fit, and privacy and safety.

3. Methodology

3.1. Design and case boundary

The study is a qualitative needs assessment conducted as a bounded case. A qualitative design suits the research questions because the object of inquiry is how teachers themselves describe their work, articulate needs, and evaluate the support they receive — matters that require interpretation rather than measurement. The case boundary is two rural primary schools participating in the arts education programme of a Chinese nonprofit organisation in Guizhou province. The study does not claim to represent rural schools nationally or internationally; its purpose is to generate a situated account of needs that is detailed enough to justify specific design requirements. Readers in other settings should treat the findings as transferable propositions to be tested against their own contexts rather than as generalisations.

3.2. Setting, participants and researcher position

The two schools are publicly funded rural primary schools serving dispersed villages. Both employ few or no specialist art teachers, so art lessons are taught by staff whose main assignment lies elsewhere. One school reported an enrolment of over six hundred pupils, a substantial proportion of whom live with grandparents while their parents work in distant cities — a pattern of family separation common in rural regions undergoing labour migration and, as research on rural teachers' relationships with "left-behind" children shows, one that expands what teachers are expected to notice and absorb beyond instruction [3].

Six teachers participated. To preserve anonymity, they are reported by role and experience rather than by name or school. Three are quoted directly in this paper: Teacher A, a homeroom teacher and generalist with more than ten years of service who teaches language and mathematics alongside art,

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music and physical education as needed; Teacher B, a part-time visual art teacher with five years of service and no specialist arts training; and Teacher C, an early-career part-time music teacher in her third year of service. The remaining three participants held comparable mixed assignments and their accounts inform the analysis without being quoted individually.

The researcher has participated in the programme since 2019 as a volunteer teacher and programme participant. This position afforded sustained access, familiarity with how the programme actually operates, and the trust necessary for teachers to speak candidly about the limits of provision they themselves benefit from. It also carries evident risks: participants may have moderated criticism in the presence of someone associated with the programme, and the researcher's investment in the programme's premises may have shaped interpretation. Two measures were used in response. Interview questions were framed around concrete tasks and recent episodes rather than around evaluation of the programme, and analytic memos were kept in which alternative and disconfirming readings of the material were recorded and revisited. These measures reduce but do not eliminate the concern, which is reported here as a limitation rather than resolved.

3.3. Data collection

Three types of material were collected. Semi-structured interviews with the six teachers addressed daily workload and teaching assignments, art lesson planning and delivery, professional learning opportunities, how teachers respond to pupils' emotional needs, experience of nonprofit support, and views on digital and AI tools. Interviews were conducted in Mandarin, audio-recorded with consent, transcribed, and translated into English for reporting; quotations in this paper have been translated with attention to preserving the speaker's register, and lightly condensed where repetition would obscure meaning. Crucially for the third finding, the interview guide contained explicit questions about intelligent and digital tools and about what teachers would want from nonprofit-provided AI support, so the AI-related theme rests on direct questioning rather than on inference.

Classroom observation covered ten art lessons across the two schools, spanning drawing, handicraft and music activities in different year groups. Observation focused on how lessons were organised, what materials were used, how pupils engaged with tasks, and how teachers interacted with pupils during activities. Field notes recorded observable behaviour and talk; no identifying information about individual pupils was recorded, and no inferences about individual children's psychological states were made from observation.

Programme documentation comprised records of training sessions, project meetings, curriculum materials and the researcher's own reflective notes from participation since 2019. This material was used to establish how the programme operates and to check teachers' accounts of provision against documented activity. A questionnaire had been administered in an earlier phase of the wider project, but because sampling, item construction and response rates could not be reported to a standard adequate for publication, questionnaire results are excluded entirely from this paper.

3.4. Analysis

Analysis followed reflexive thematic analysis [20]. Transcripts, field notes and programme records were first coded openly, generating descriptive codes such as multi-subject teaching load, preparation time, art materials, training format, peer exchange, pupil expression, teacher–pupil communication, device and connectivity constraints, tool usability, and boundaries of teacher responsibility. Related codes were then grouped into candidate themes, which were compared across teachers and across the two schools to identify both shared patterns and points of divergence —

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particularly between specialist and non-specialist assignments, and between more and less experienced teachers. Design requirements were derived only after the empirical themes had stabilised, so that the proposal in Section 5 emerges from the material rather than being imposed on it; where a proposed function has no corresponding expressed need, this is stated. Because the material is qualitative and the sample is small, no claims of frequency or representativeness are made; where a view was voiced by a single participant it is reported as such.

3.5. Ethics and trustworthiness

Teachers gave informed consent, were told the purpose of the study and their right to withdraw, and are reported anonymously with schools unidentified. Classroom observation involving minors proceeded with school permission, and no audio, image or identifying record of pupils was collected; pupils' work is described only in general terms. Trustworthiness rests on triangulation across interviews, observation and programme records, on deliberate search for disconfirming instances, and on the maintained analytic memos. Given that this study touches on both children and AI-mediated data, transparent limits on what was collected and what can be claimed matter more than any expansion of the dataset.

4. Findings

4.1. Support needs are embedded in everyday work, not in abstract skill deficits

The most consistent pattern in the material is that teachers did not describe their needs as a shortage of artistic expertise. They described needs generated by the arithmetic of their working week. Teachers held multiple assignments, preparation happened after the school day, and art sat alongside examined subjects and homeroom duties in a fixed number of hours. Teacher A put the structural point plainly:

"Besides being a homeroom teacher, I teach Chinese and maths, and sometimes physical education, music and art as well. It is not that the school does not want to take art seriously — there simply are not enough of us. Days go to teaching, marking and class business; evenings go to preparing tomorrow."

This is a framing worth taking seriously, because it locates the problem in staffing and time rather than in teacher motivation, and it matches the global pattern of shortage-driven subject absorption reported by UNESCO [2]. The same teacher also described a second demand that competes for the same hours — the pastoral weight of a pupil population marked by family separation:

"We have more than six hundred students, and over four hundred are left behind by parents working far away. On the surface they are fine — they sit in class, they answer questions. Many of them are lonely, and we can feel it without necessarily knowing what to do about it."

Classroom observation was consistent with this account of constrained conditions. Lessons were organised around materials that were readily available and inexpensive, activity design tended toward whole-class tasks that a single teacher could manage without assistance, and teachers moved between instructing, distributing materials and managing behaviour without support in the room. Pupils in the observed lessons engaged readily with drawing and handicraft tasks and frequently talked about their work with the teacher; these are observations about participation and communication, and the study makes no claim about what they signify psychologically.

Needs were not uniform across participants, and flattening them would misrepresent the material. The non-specialist visual art teacher, Teacher B, located her difficulty in confidence and repertoire

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rather than in time alone, describing hesitancy about techniques she had never been taught. Teacher C, the early-career music teacher, framed the problem in terms of continuity for pupils rather than her own capability, and returned repeatedly to the loss involved when interest is not sustained: "Many children have talent, but with nobody to guide them it just fades. That is a real waste." Teacher A, the most experienced participant, spoke least about technique and most about load. Support that assumes a single profile of "the rural art teacher" would therefore mis-target at least two of these three positions.

Read against the professional learning literature, this finding is unsurprising but consequential. If learning is conditioned by the interaction of teacher, school and activity [6], and if coherence with existing work is a precondition of impact [5], then support built around generic art curricula and undifferentiated workshops will predictably underperform, however well designed in the abstract. What these teachers were asking for was help with tasks they already had, in the time they actually possessed, at the level of confidence they actually held. Any AI functionality or nonprofit training that ignores this task-level specificity will be evaluated by teachers not as insufficient but as irrelevant.

4.2. Existing nonprofit and school support is valued but discontinuous

Teachers were clear that external provision had made a difference. Programme records document art curricula delivered, materials supplied, volunteer-led lessons and training sessions held; teachers spoke of these as opportunities they would not otherwise have had, and as their main exposure to art teaching methods beyond their own improvisation. The critique that emerged was not about the value of provision but about its shape over time.

The pattern participants described was episodic: an input arrives, is used while it is fresh, and then is not followed by anything. Nothing in their accounts suggested a mechanism through which a teacher could try an approach, report what happened, and receive a response. The same discontinuity appeared in school-based professional learning related to pupils' emotional needs, as Teacher B described:

"We have no counsellor. Form teachers and subject teachers do it on the side. The school sometimes organises simple training — how to talk with students, how to notice changes in mood — but it is short, and it is not systematic."

Her assessment of the resulting practice was candid, and notably self-limiting rather than self-justifying:

"Most of what we reach is the surface. Some children will not talk; some look well-behaved but are under real pressure. We know there is something, but we do not know how to ask further. We are also afraid that if we push too deep the child will close up even more."

Teacher C also pointed to a relational limit on what additional training alone might achieve, independent of teacher ability:

"The kids see teachers as the people who enforce rules and grades. As a result, they will not hand you their most honest feelings. Asking alone gets you only so far — it has to be something children actually want to use."

One difference should be noted. Some participants did not agree with the idea of having more contact with external experts, with Teacher A stating specifically that additional long training events would add to the workload they were supposed to relieve: "Keep the training short — do not lecture us on theory." Other participants, such as Teacher C, wanted the extended relationship they were not always able to have with external experts — "someone alongside of us over the long run, with updates and a way to give feedback" — rather than a single event. This is not a contradiction that

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needs to be solved by selecting one preference, but a design constraint: continuity must be cheap in terms of teacher time if it is going to be acceptable, and to make this happen, models cannot equate sustained support with sustained meetings.

The professional learning and community-of-practice literature anticipates this pattern. Collaboration produces gains where it is embedded in shared work and organisationally supported, not where expertise is delivered and withdrawn [4, 7], and studies of facilitated online communities in rural school systems show that dispersed staff will invest in a channel that reliably exists and reduces their isolation [8]. The gap identified here is therefore structural rather than a failure of goodwill: nonprofit organisations are well placed to convene and coordinate, but continuity is expensive to staff through visits and expert time. That is the specific problem the design in Section 5 attempts to address.

4.3. Teachers' expectations of AI support are concrete, conditional and narrow

Because the interview guide asked directly about digital and intelligent tools, teachers' views on AI can be reported as a finding rather than as speculation. What is striking is how specific and how bounded those views were. Teachers did not endorse AI in general; they named tasks and attached conditions.

The tasks were clerical and preparatory rather than pedagogical or diagnostic. Teacher A wanted the bits of the work that take place at night: "If AI can create some exercises, get the materials sorted, even help to design a lesson, I will lose fewer nights of my life." Teacher C wanted a structure that would walk her through the creative process, rather than a finished product: "I need something to walk me through the process — first this, then this, then that." Teacher B wanted something for pupils' sense of possibility rather than for assessment: "Rural children are not short of ideas, and they do not dislike art. What they lack is a platform and guidance. If AI gives them a nudge and they think 'so I can create too', that does a lot for their confidence." These are modest expectations that align closely with experimental evidence that ChatGPT-assisted lesson planning can improve efficiency while still requiring iterative adaptation to context [9].

Teachers were most emphatic about the conditions, and they were infrastructural before they were pedagogical. Devices came first. As Teacher B observed, "What teachers use most is a phone. If there is an AI tool, let it run on a phone — do not make it depend on a computer, and do not let it eat memory and data." Connectivity came next, raised independently by two teachers as a threshold condition rather than a preference. Teacher A asked for the platform to "work offline, at least partly", because "in some places you cannot stay online for long"; Teacher B was blunter about what happens otherwise: "When it rains or the signal drops, a lot of software is simply dead. However good the tool is, we are back to doing it ourselves." Simplicity was the third condition, and Teacher A stated it as a disqualifying criterion rather than a nice-to-have: "It must not be complicated. If a teacher spends half a day learning it and still cannot use it, there is no point." Her summary of requirements was three words — "free, safe, easy". Teacher C extended the usability point to colleagues older than herself: if a tool opens and the next step is unclear, "people will give up quickly."

A fourth condition concerned cultural fit, and it was raised by one participant with particular force. Teacher C argued that a platform populated with metropolitan imagery would fail on relevance before it failed on function:

"If the platform is full of city images and city examples, children will feel it has nothing to do with them. Our folk patterns, local colours, festivals and handicrafts could all become material. With that kind of localisation it stops being just a tool and becomes a support system for rural children."

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Teachers also identified a possible role for a non-judgemental channel of expression, and it is important to state exactly how far the data support this. Teacher C suggested that some children "will not talk to a teacher, but might open up through drawing, music, or a system that will not criticise them", and Teacher B hoped for "a relatively private, gentle space — even just picking a mood, tapping a few pictures, drawing a few lines". These are teachers' hopes, not demonstrated effects, and they concern channels for voluntary expression rather than assessment of children. Reviews of arts participation and young children's wellbeing report emerging and positive but methodologically uneven evidence, with variation in age range, evidence quality and the professional facilitation involved [16, 17]. The responsible reading is therefore that these are plausible mechanisms to be designed and tested, and not established interventions — and that any such mechanism should be voluntary, unscored and not individually profiled, consistent with child-rights principles on safety, privacy and accountability [13].

Finally, participants identified success as implementation, not capability. Teacher A's focus was on whether a tool could actually be implemented: "Many projects sound good and stay on paper — teachers can see them but cannot use them." Teacher B stated that she wanted something that she could use right away, at an affordable cost, and that she could use in practice, but was not interested in a complicated system. This finding, then, leads to a narrow but useful bounded conclusion: in this case, teachers supported certain low-risk support functions — not the actual introduction of AI into their classrooms. This is in line with the review evidence that institutional AI provision may be misaligned with teachers' needs [15] and will inform the design that follows.

5. A proposed AI-assisted nonprofit support network

The proposal set out here is a design framework derived from the preceding analysis. It has not been built or piloted, and no claims about its effects are made or implied.

5.1. Design principles derived from the findings

Four principles follow directly from the findings and are summarised in Table 1. Each is traceable to a specific empirical observation rather than to the affordances of the technology.

Table 1. Design principles derived from the findings

Principle	Derived from	Design consequence
Teacher-centred	Needs were expressed as concrete work tasks; teachers rejected tools requiring significant learning time (4.1, 4.3)	Teachers are the primary users; entry points are named tasks, not features; usability on a phone is a threshold requirement
Continuous	Provision was valued but episodic, with no channel for follow-up, yet continuity must be cheap in teacher time (4.2)	Asynchronous, always-available support plus a low-effort feedback channel, rather than more scheduled events
Context-sensitive	Needs differed by specialism and experience; local materials and imagery were seen as decisive for relevance (4.1, 4.3)	Differentiated pathways by assignment type; a locally sourced, teacher-contributed resource base; offline availability of core functions
Human-supervised	Teachers identified relational limits to what they can ask children, and named privacy and safety as conditions (4.2, 4.3)	AI outputs are drafts requiring teacher approval; professional review of content; judgements about individual children remain human

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These principles are not a new theoretical model. They are the translation of situated needs and established professional learning criteria [5-7] into requirements a nonprofit organisation could act on, consistent with human-centred guidance on AI in education [10-12].

5.2. Actors and responsibilities

The network is determined by who is responsible for what. Rural art teachers are the main users and the decision makers: they select, edit and discard outputs from AI and are the only ones to take action on what they observe regarding individual pupils. The nonprofit organisation is not the centre of control: it brings schools together, coordinates short-term and practical training, curates the resource base and, most importantly, maintains the feedback loop after each delivery phase. Rural schools are able to create conditions that cannot be provided by outside sources: timetabled lesson time, devices and connectivity (where available), and procedures for safeguarding minors. Arts educators and mental health professionals vet resources, provide consultation, and maintain a referral pathway between teachers' day-to-day care and professional psychological services. The technical team supports tool maintenance, data security and updates, but has no pedagogical or pastoral authority. The AI assistance layer is thus part of the arrangement rather than an independent actor.

The resulting allocation of responsibilities is shown in Figure 1. The model is derived from the qualitative needs assessment and has not been implemented. Solid arrows indicate provision and practice, dashed arrows indicate the feedback loop, and the dashed AI layer is teacher-facing only.

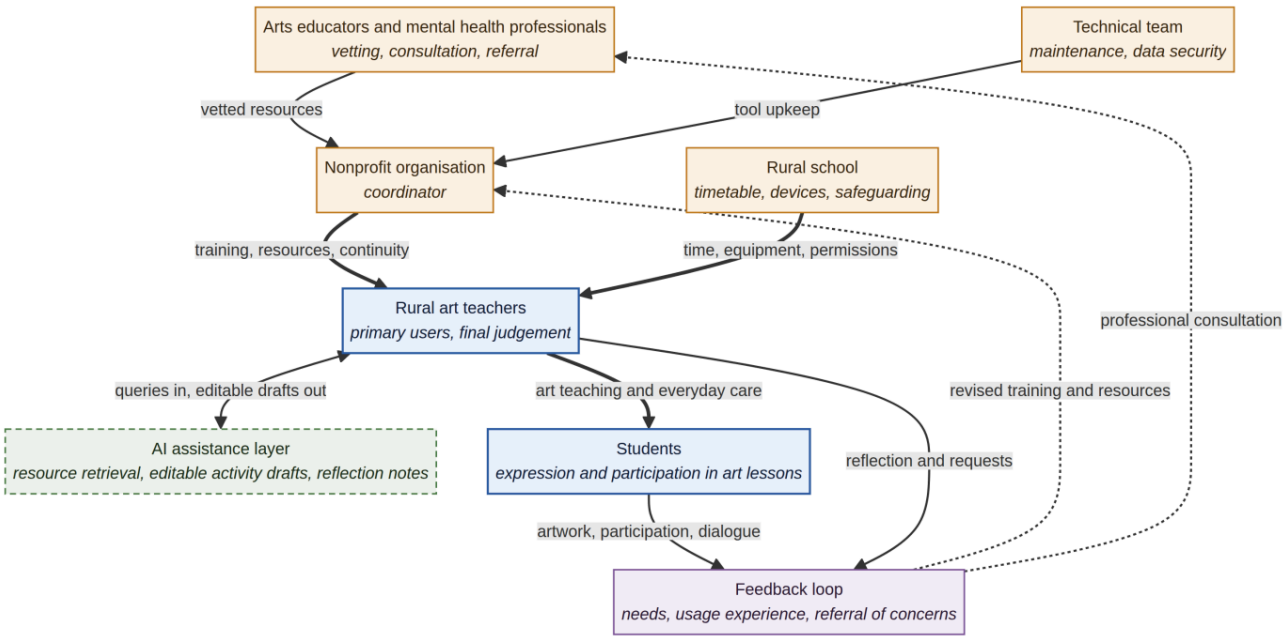

Figure 1. Proposed AI-assisted nonprofit support network
picture credit: original

5.3. Permitted and excluded AI functions

The permitted functions and their safeguards are summarised in Table 2. Specifying what the tool must not do is as important as specifying what it does, and the exclusions follow from both the interview material and child-rights guidance [13].

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Table 2. Permitted AI functions and safeguards

Function	Who uses it	Task addressed	Oversight	Data retained
Retrieval and classification of vetted art teaching resources	Teacher	Finding usable material quickly, including local cultural material (4.1, 4.3)	Resources pre-vetted by arts educators	Query logs only, no pupil data
Generation of editable activity drafts	Teacher	Reducing evening preparation time (4.3)	Teacher approves and revises before use	Draft versions, teacher-owned
Adaptation suggestions by age group, available materials and lesson length	Teacher	Differentiation under material constraints (4.1)	Teacher judgement on suitability	None beyond the request
Step-by-step scaffolds for unfamiliar creative techniques	Teacher, optionally shared with pupils	Confidence and repertoire of non-specialists (4.1, 4.3)	Reviewed content library	None
Organisation of teachers' own reflective notes	Teacher	Making reflection cumulative rather than lost (4.2)	Teacher-controlled; de-identified by default	Text without pupil identifiers
Aggregation of anonymised training needs and general lesson feedback	Nonprofit organisation	Sustaining responsive provision (4.2)	Nonprofit and expert review	Aggregate only

The excluded functions are automated recognition or inference of pupils' emotions; automated creation of individual psychological profiles; unsupervised risk scoring or prediction; individual counselling of minors; and automated curriculum or intervention decisions without teacher supervision. Two of these exclusions require special attention as they are the functions most readily solicited by a needs assessment of the kind described. In fact, the same relationship distance that Teacher C identified, between children who will not tell teachers what they want to know, is the very reason that automated inference is so appealing and also so dangerous: a tool that can be used as a "private" conduit will gather just the kind of information that should not be profiled. If a voluntary expressive feature is present, it must be unscored, not diagnostic, not individually recorded, and must be accompanied by an established referral pathway to qualified professionals. Second, pupil-facing creative tools should balance teachers' enthusiasm with risks the design must anticipate: over-reliance on generated images rather than the child's own making, and displacement of the teacher–pupil relationship that gives art lessons their pastoral value. Guidance on generative AI in education and teacher agency therefore supports conservative defaults and teacher-mediated access for pupil-facing tools [10, 11].

6. Conclusion

This research aimed to identify the support needs of rural art teachers in two rural primary schools involved in a nonprofit arts education programme in Guizhou and to design an AI-assisted nonprofit support network based on those needs. Regarding the first research question, participants' needs stemmed from their working context rather than simply from a lack of artistic ability: multi-subject assignments, limited preparation time, uneven confidence and repertoire among non-specialists, and pastoral responsibility for pupils separated from their parents. Regarding the second research

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question, existing school and nonprofit resources, lessons and training were valued, but provision was uneven and lacked a mechanism for teachers to experiment, report back and receive feedback; some teachers also resisted additional training because of its time demands. Regarding the third research question, the proposed design positions the nonprofit organisation as coordinator, teachers as primary users and final decision makers, professionals as reviewers and referral contacts, and schools as providers of time, equipment and safeguarding.

In that framework, AI is best restricted to resource retrieval, editable activity drafts, differentiation suggestions, creative scaffolds and reflection summaries—tasks teachers themselves identified as useful. It should not be used to recognise emotions, conduct psychological profiling, predict risk or provide counselling to minors. The absence of teacher concern about these risks does not make them negligible. The central limitation of such tools is that plausible outputs do not carry human judgement or accountability. In contrast, teachers' identified bottlenecks, including preparation time, limited resources, and lack of follow-up, could benefit from a small, teacher-focused tool that could be supplemented by human review.

The contribution of the paper is therefore not a proven intervention but a needs-driven, human-supervised design framework. For nonprofit organisations, it proposes a shift from one-off delivery to maintaining feedback channels, developing teachers' AI competence and curating content beyond individual visits. For schools and technical partners, protected lesson time and realistic assumptions about devices and connectivity are also important. Data protection and clearly assigned institutional responsibility are equally important. The study's limitations should constrain interpretation: it includes only six teachers in two schools; the researcher is also a programme participant; teachers' expectations of AI are mostly anticipatory; and there are no direct data from children, no measurements of student outcomes and no implemented platform. Future studies should begin with a feasibility study and a small teacher-facing pilot to examine whether teachers edit rather than simply adopt AI outputs, followed by longer-term, independently approved studies that examine teacher and student outcomes on their own terms.

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