TTAG VOLTA SECTOR · NORTHERN ZONE

The 21st Century Teacher and the Digital Space

Participant handbook

Everything we covered in the Digital Skills Training on Saturday 31 October 2026, in the order we did it, with the steps you can follow again on your own.

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Hosted by TTAG Volta Sector. Training held on Google Meet.

> **HOW TO USE THIS HANDBOOK** Do not read it from start to finish. Pick the part you need, follow the numbered steps on your own laptop or phone, and come back when you forget a step.

What is inside

Part	Topic	Use it when you want to
1	Digital literacy: safe, smart, professional	protect your account and check what you read
2	Google Workspace and Google Classroom	share files, build quizzes, run a class
3	AI for teaching and learning	get a useful lesson plan from an AI tool
4	Research and referencing	format an essay, cite and list sources
5	Your 7-day challenge	turn tonight's lessons into habits
6	Links and a quick-reference card	find a tool again quickly

A note on screens. Google, Classroom, Forms and the AI tools change how their menus look every few months. If a button has moved, look for the same words nearby or use the search box at the top of the page.

Part 1. Digital literacy: safe, smart, professional

Digital literacy is more than typing fast or knowing Excel. As teachers we also protect children's information.

1.1 Four skills

Skill	What it means
Use	Pick the right tool and use it well.
Judge	Know what to believe.
Protect	Keep your accounts and data safe.
Create	Make things that help learners.

1.2 Lock your Google account

Everything else in this handbook depends on your Google account. If someone takes it, they take your Drive, your Classroom and your email.

- Use a passphrase: three or four random words, such as "mango bicycle cloud river". It is easier to remember and harder to guess than "Kofi1234".
- Turn on 2-Step Verification, so a stolen password is not enough.
- Never send anyone a code you receive. A common scam is a WhatsApp message saying "I sent a code to your phone by mistake, please send it to me." That code is the key to your account.
- Check which devices are signed in, and sign out any you do not recognise.

How to turn on 2-Step Verification

1. Go to myaccount.google.com/security.
2. Scroll to "How you sign in to Google" and click 2-Step Verification. If you cannot find it, type "2-Step Verification" in the search box at the top of the page.
3. Click Get started. Google may ask for your password.
4. Add your phone number if asked and enter the code Google sends you.
5. Click Turn on. The page now says 2-Step Verification is on.

How to check your devices

1. On the same security page, scroll to "Your devices" and click Manage all devices.
2. If you see a device you do not recognise, click it and sign out.

1.3 Before you forward it, SIFT it

SIFT is a habit from the digital literacy researcher Mike Caulfield. Use it before you forward anything.

Letter	Step	In practice
S	Stop	Fake news is designed to make you feel something. When you feel fear or excitement, pause.
I	Investigate the source	Who posted this? Have they been reliable before?

Letter	Step	In practice
F	Find better coverage	If GES really announced new posting dates, it will be on the official GES website and page, not only in a WhatsApp forward.
T	Trace it to the original	Screenshots get edited. Find where it first appeared.

1.4 Your digital footprint

- During STS and after posting you will want to share your class online. Ask first. In the boys' club run at my school, parents sign consent forms before anything about their children goes online.
- Schools and future employers can search your name. What you post today is part of your professional record.
- Ghana's Data Protection Act, 2012 (Act 843) protects personal data. Learners' names, photos and results are personal data.

Part 2. Google Workspace and Google Classroom

Four free Google tools do most of a teacher's paperwork. Everything here works with an ordinary Gmail account.

Tool	What it does for you
Drive	Stores your files.
Docs	Lets you write, alone or with others.
Forms	Makes quizzes that mark themselves.
Classroom	Brings it all together for your class.

Schools can also apply for Google Workspace for Education, which is free for qualifying schools. You do not need it to start.

2.1 Share the right way

The biggest mistake is sharing everything as Editor. Then one person deletes the whole document by accident.

Role	What the person can do
Viewer	Read only. Use it for things people should only read.
Commenter	Read and leave comments, but not change your text. Ideal when a mentor reviews your lesson plan.
Editor	Change anything. Use it for real group work.

How to share a document

1. Open the Doc and click the blue Share button at the top right.
2. Under General access it says Restricted. That means only the people you add can open it.
3. To share with a link, click Restricted and choose Anyone with the link.
4. Click the word beside it (Viewer, Commenter or Editor) and choose the role.
5. Click Done.

Trick 1: Suggesting mode

1. At the top right, click the word Editing and choose Suggesting.
2. Change a word. Your change shows in colour and the original stays visible.
3. The owner accepts or rejects each change. You can edit someone's work without overwriting it.
4. Switch back to Editing when you finish.

Trick 2: Version history

1. Click File, then Version history, then See version history.
2. Click an older version in the list on the right to see what was written then.
3. To bring it back, choose Restore this version. Nothing is lost.

Trick 3: The /copy link

1. Click Share, then Copy link.

2. Paste the link in the address bar and change the ending, from /edit and everything after it, to /copy. Press Enter.
3. Docs asks "Make a copy?" Every learner who opens this link gets their own copy, and nobody writes on your original.

Use the /copy link for worksheets and templates.

2.2 Build a quiz that marks itself

Marking 45 scripts by hand takes an evening. A Forms quiz marks itself the moment learners submit.

1. Type forms.new in the address bar and press Enter. A blank form opens.
2. Click Untitled form and type a name.
3. Click the Settings tab. Switch on Make this a quiz. Under Responses, set Release grade to Immediately after each submission. Go back to the Questions tab.
4. Click the first question box and type your question. Type four answers below it, one per line, as Multiple choice.
5. Click Answer key at the bottom left of the question. Click the correct answer so it turns green. Set Points to 1 and click Done.
6. Publish the form. This is the step people forget. Click Publish (or Manage publish settings) and check the top right says Published.
7. Click Send, then the link icon, then Copy, and share the link.

> **COMMON MISTAKE** If you forget to publish, learners see "This form isn't accepting responses". Always look for the word Published.

- Multiple choice, checkboxes and short answers mark themselves. Essays still need you.
- Open the Responses tab to see answers arrive. Click Summary to see the most-missed questions. That tells you what to reteach tomorrow.

Can I limit a quiz to my own learners?

Forms cannot limit a quiz to particular index numbers. The strongest set-up uses three things together:

- Post the quiz in Classroom, so only learners on your class list can open it.
- In Settings, Responses, switch on Limit to 1 response.
- Add a short-answer question for the index number, then check the numbers against your class list afterwards.

This still cannot stop a learner typing a friend's number, so supervise real tests.

2.3 Google Classroom in four tabs

Tab	What it is
Stream	Your notice board. The class code is at the top left. New announcement posts a message to everyone.
Classwork	Assignments, quizzes and materials. Click Create to add an Assignment, Quiz assignment, Topic and more.

Tab	What it is
People	Teachers at the top, students below. Invite learners with the class code or an invite link. Add a co-teacher, for example your mentor during STS.
Grades	Every learner and every assignment in one table.

A habit that makes a big difference: organise Classwork by week with Topics (Week 1, Week 2). Nobody has to scroll to find anything.

2.4 From an empty class to a first assignment

Join a class (learners)

1. Go to classroom.google.com.
2. Click the plus sign at the top right and choose Join class.
3. Type the class code your teacher gave you.

Create a class (teacher)

1. At classroom.google.com click the plus sign and choose Create class.
2. Give it a name, then share the class code that appears under the class name.

Set up the work

1. Topic. Open Classwork, click Create, then Topic. Type Week 1 and click Add.
2. Assignment. Click Create, then Assignment. Add a title and the points, choose a due date and choose the Topic.
3. Rubric. Click + Rubric and choose Create rubric. Add a criterion with its levels (for example 5, 3 and 0 points). Add more criteria and click Save. The rubric total must match the Points box: two criteria of 5 points make 10.
4. Click Assign. Learners see how they will be marked before they start.
5. Quiz. Create a second assignment, attach your Forms quiz with the Drive button, and click Assign. Learners open the form from the assignment and Forms marks it on submission.
6. Mark and return. Click the assignment, open Student work, click a submission, type a mark, add a private comment and click Return.

That is the whole cycle: set work, collect it, mark it and return it with feedback, all in one place.

> **SCORES FROM A FORMS QUIZ** On a personal Gmail account, quiz scores stay in the Forms Responses tab and you type the marks into Classroom Grades yourself. Importing the grade automatically needs a Google Workspace for Education account, with the quiz as the only attachment on the assignment.

2.5 Running Classroom when data and devices are limited

- Post light files. A short voice note uses far less data than a video.
- Schedule your posts. Prepare the week on Sunday evening. When you create a post, click the arrow beside Assign, choose Schedule, pick a date and time, and click Schedule.
- Use the mobile apps. They run well on an ordinary Android phone.
- Mix online and offline. Learners without phones can take a printed quiz, and you enter their marks in Grades so everything stays in one place.

Part 3. AI for teaching and learning

3.1 What an AI chatbot actually does

A chatbot predicts the most likely next words. It is very good at sounding right, which is not the same as being right.

Good at	Weak at
First drafts	Facts
Questions at different levels	Ghana-specific details, such as what exactly is in your curriculum
Explaining things more simply	References. It will invent a journal article with a real-sounding title by authors who never wrote it.

TRY THIS YOURSELF Ask a chatbot for three journal articles on teacher education in the Volta Region, with DOIs. Copy one DOI into doi.org. Often it cannot be found, or it opens a different paper.

3.2 Free tools worth knowing

You do not need ten tools. Pick one general assistant and learn it well. They do similar things.

Tool	Where	Good for
ChatGPT	chatgpt.com	General drafting, explaining, generating questions.
Gemini	gemini.google.com	Google's assistant; works alongside Docs and Drive.
Microsoft Copilot	copilot.microsoft.com	Microsoft's assistant; useful if you work in Word.
NotebookLM	notebooklm.google.com	Answers only from documents you upload, such as your notes. Far less likely to invent things.

All four have free versions. Features and limits change often, so try them yourself.

3.3 The prompt formula: Role, Task, Context, Format

A prompt like "lesson plan on mixtures" gets a generic plan, often for a school abroad with a lab you do not have. Use four parts:

Part	Ask yourself	Example
Role	Who should it act as?	Act as an experienced JHS 1 Science teacher in Ghana.
Task	What exactly do you want?	Write a 60-minute lesson plan on separating mixtures.
Context	What does it need to know?	I have 45 learners and no science lab. We have sand, salt, water, a sieve and a piece of cloth.
Format	How should the answer look?	A table with rows: starter, main activities, assessment, and support for slower and faster learners.

Context is the part most people skip, and it is what makes the answer fit your class.

The full prompt, ready to copy

> Act as an experienced JHS 1 Science teacher in Ghana. Write a 60-minute lesson plan on separating mixtures. I have 45 learners and no science lab. Available materials: sand, salt, water, a sieve and a piece of cloth. Present it as a table with these rows: starter, main activities, assessment, and support for slower and faster learners.

3.4 Do not accept the first answer: improve it

Read the first answer as a teacher. Would a JHS 1 learner in Ghana relate to this starter? Can I check learning at the end? Then keep talking to the tool. Send these one at a time:

> Use items found in a Ghanaian kitchen for the starter activity.
>
> Add five exit-ticket questions, from easy to hard.
>
> Rewrite the learner instructions in simple English.

The skill is not writing one perfect prompt. It is the conversation after it. You are the teacher, and the AI is a fast assistant who needs direction.

3.5 Seven jobs you can hand to AI this week

Job	Detail
Questions at three levels	For mixed-ability classes.
Rubrics	For projects and presentations.
Simpler reading passages	On the same topic.
Local examples	Ghanaian names, foods and places, so learners see themselves in the lesson.
Feedback starters	Which you then personalise.
Letters to parents	Clear and polite.
Revision quizzes	To paste into Google Forms.

Every one of these is a draft. You check it, adapt it and decide.

3.6 Nyansa: an AI teaching assistant built for Ghanaian teachers

Nyansa (Twi for "wisdom") is a teaching and learning platform from PagezTech Ventures, the company I founded. It is at nyansa.app. For teachers it offers:

- Lesson notes: draft GES-format lesson notes and download them as a PDF.
- Quizzes from a topic: generate multiple-choice questions, then edit them.
- Rubrics and differentiated tasks, for mixed-ability classes.
- Review before release: the AI suggests scores and feedback, and you approve them before learners see anything.

> **GET STARTED** Go to nyansa.app and choose For teachers, then Register as a teacher. At the time of writing, Teacher Copilot includes 6 free generations to try, then a monthly plan. Plans can change, so check the pricing page.

Nyansa follows the same rule as every AI tool in this handbook: the AI drafts, and you check, adapt and decide.

3.7 Use AI like a professional

Rule	What it means
Protect learners' data	Never paste a learner's name, results or personal story into an AI tool. Remember Act 843.
Check every fact	Verify facts, figures and above all references before you use them.
Stay the author	If a lesson goes wrong, "the AI wrote it" is not an excuse. You are responsible for what you teach.
Be honest about it	Follow your college's rules on AI in assignments, and say when you used it. Hiding it is what turns a tool into cheating.

Young learners. UNESCO's 2023 guidance on generative AI in education proposes 13 as the minimum age for using these tools in class. For primary and JHS 1 learners, you use AI to prepare; they do not use it directly.

Part 4. Research and referencing

Your long essay is where many trainees lose marks: not on ideas, but on formatting and referencing. Software can do that part for you.

4.1 Find sources you can trust

- Google Scholar (scholar.google.com) searches academic articles, not the whole internet. Under a result, Cited by shows newer papers that cite it, which is how you find recent research. The quotation-mark Cite button gives the reference in APA. Check it against the article, because Scholar sometimes makes small mistakes.
- ERIC (eric.ed.gov) is a free database of education research.
- Your college librarian can tell you which e-resources you already have access to.
- Wikipedia and AI chatbots are fine for finding leads, but never cite them as your source.

Try this search

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formative assessment Ghana basic schools
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4.2 AI for research: find and understand, never cite

AI cannot do your referencing for you. It can help you research, if you use the right tools in the right order.

Step	Tool	What to do
1. Find	Elicit (elicit.com), Consensus (consensus.app)	Ask a research question. They search real published papers, not made-up ones.
2. Understand	NotebookLM (notebooklm.google.com)	Upload the PDFs you found and ask questions. It answers only from your sources.
3. Verify and save	The real paper, then Zotero	Open the paper and check it says what the summary claims. Then save it.

When you use Consensus, click a paper and open its DOI to reach the real journal page. Also check where the studies were done. Many are from other countries, so the answer tells you what research says in general, not what is true for Ghana. Always ask: does this fit my context?

> **THE RULE** AI finds and explains. You never copy a reference from a chatbot. Cite only what you have opened yourself.

4.3 Google Docs: contents page and references

Google Docs is free, works on your phone, saves itself, and downloads as a Word file.

Headings and the table of contents

A heading is not just big, bold text. It is a label that tells Docs "this is a title" or "this is a section". Docs builds the contents page from those labels. If you only make text big and bold by hand, Docs cannot see it.

1. Click anywhere in your title. Find the box that says Normal text in the toolbar, click the small arrow and choose Heading 1.
2. Do the same for each chapter title (Heading 1).

3. Click each section title inside a chapter, for example 1.1, and choose Heading 2.
4. Faster: click in a heading and press Ctrl + Alt + 1 for Heading 1, or Ctrl + Alt + 2 for Heading 2.
5. Check the outline: click the small arrow at the top left of the page. Docs lists your headings, and you can click one to jump to it.
6. Click on the empty line where the contents should go. Click Insert, then Page elements, then Table of contents, and choose the first style, the one with page numbers.

When you add or change a heading later, click the contents page and press the refresh icon at its top left. It updates itself.

Citations in Google Docs

1. Click Tools, then Citations. A panel opens on the right. Choose APA (7th ed.).
2. Click Add citation source. Under Source Type choose Journal article. Under Accessed by choose Website.
3. Fill in the form: first and last name of the first author (use + Contributor for more authors), title, journal, volume, issue, pages, year, URL and DOI. Click Add citation source.
4. Click in your text, just before the full stop of the sentence. In the panel, hover over the source and click Cite.
5. Docs adds a hash sign for a page number. If you paraphrased, delete the comma, the space and the hash. If you quoted, replace the hash with the real page number from the paper.
6. At the very end of the document, click Insert references in the panel. Docs builds the list in alphabetical order, under a title called References.
7. Click in the References title and press Ctrl + Alt + 1, so the contents page picks it up. Refresh the contents.

Accessed by asks how you found the source. Print is for a paper journal or book. Website is for anything you opened from a link. Online database is for a library database such as EBSCO or JSTOR.

> **TWO THINGS TO WATCH** Volume and issue sit side by side and look alike, but swapping them points to the wrong article. And type the DOI as a full link starting https://doi.org/.

Docs formats the list for APA, with double spacing and a 0.5 inch indent. Check it against your college's rules. If they want a different layout, select the list and use Format, then Line & paragraph spacing, or Format, then Align & indent, then Indentation options.

Docs keeps your sources only inside that document. To hand in a Word file, click File, then Download, then Microsoft Word (.docx).

4.4 Zotero: save a source once, cite it forever

Docs' own citations are fine for a short essay. For a long essay or a research project, use Zotero. It is free.

Zotero has two parts. The desktop app keeps your library. The Zotero Connector is a small button in your browser that saves things into it. Zotero needs a laptop. On a phone, use Docs' own Tools, Citations. Download both from zotero.org.

1. Install the Zotero app and the Zotero Connector for your browser.
2. In the Zotero app, create a collection for the essay and click it. Zotero saves into whichever collection is open, so always click the right one first.

3. Open a journal article page. Click the Zotero Connector icon in the browser toolbar (a small page icon beside the star). The item appears in Zotero.
4. Click the item and check the title, author, year and DOI. Web pages are sometimes messy. For APA, the title must be in sentence case: only the first word and names get capitals. Fix it once here.
5. In your Google Doc, click at the end of the sentence, before the full stop. Click Zotero in the menu bar, then Add/edit citation.
6. In the search bar, type the author's surname, press Enter, then press Enter again. If a box says "Zotero is updating your document", wait for it to clear.
7. At the end of the document, click Zotero, then Add/edit bibliography. Type References above the list and press Ctrl + Alt + 1. Zotero builds the list but does not add the heading.
8. If you fix a record in Zotero later, click Zotero, then Refresh in the Doc. Every citation and the list update. If you change referencing style, one click changes every citation.

IF YOU CANNOT SEE THE ZOTERO MENU The Zotero menu next to Help in Google Docs appears only after you install the Connector. Install it, then refresh the Doc.

4.5 APA 7th edition on one page

A journal article in your reference list

Surname, A. A., & Surname, B. B. (Year). Title of the article in sentence case. *Journal Name, Volume*(Issue), first page–last page. https://doi.org/...

In-text citations

Situation	How it looks
One author	(Surname, 2024)
Two authors	(Surname & Surname, 2024)
Three or more authors	(Surname et al., 2024)
Direct quote	(Surname, 2024, p. 12)

THE RULE EXAMINERS CHECK FIRST Every citation in your text must be in your reference list, and every item in the list must be cited.

Part 5. Your 7-day challenge

The danger after a long training is leaving excited and doing nothing. One small step a day, starting the day after the training:

Day	Step
Day 1	Turn on 2-Step Verification, if you have not yet.
Day 2	Create a Google Classroom for your STS class or study group.
Day 3	Build a 10-question self-marking quiz in Forms.
Day 4	Plan a lesson with an RTCF prompt, then improve it yourself.
Day 5	Install Zotero and save five sources for your long essay.
Day 6	Apply Heading styles and an automatic table of contents.
Day 7	Teach one colleague one thing from the training.

Day 7 matters most. That is how the room doubles next week.

> **SHARE IT** When you finish Day 7, post a screenshot and tag TTAG Volta (@ttagvolta).

Part 6. Links and quick-reference card

Links

For	Address
Account security	myaccount.google.com/security
New Google Doc	docs.new
New Google Form	forms.new
Google Forms home	forms.google.com
Google Classroom	classroom.google.com
ChatGPT	chatgpt.com
Gemini	gemini.google.com
Microsoft Copilot	copilot.microsoft.com
NotebookLM	notebooklm.google.com
Nyansa (teacher tools)	nyansa.app
Google Scholar	scholar.google.com
ERIC	eric.ed.gov
Elicit	elicit.com
Consensus	consensus.app
Zotero	zotero.org

For	Address
Check a DOI	doi.org

Quick-reference card

I want to…	Do this
Stop a stranger taking my account	2-Step Verification on, passphrase, never share a code.
Check a message before I forward it	SIFT: Stop, Investigate, Find better coverage, Trace.
Let people read but not edit	Share, then choose Viewer.
Give each learner their own copy	Change /edit to /copy at the end of the link.
Get an old version back	File, Version history, Restore this version.
Make a self-marking quiz	forms.new, Make this a quiz, Answer key, Publish.
Get a useful lesson plan from AI	Role, Task, Context, Format. Then improve it.
Generate lesson notes or quizzes in Nyansa	nyansa.app, For teachers. Review before use.
Build an automatic contents page	Heading 1 and 2, then Insert, Page elements, Table of contents.
Cite in Docs	Tools, Citations, APA (7th ed.), Add citation source.
Cite a long essay or thesis	Zotero: Connector to save, Zotero menu in Docs to cite.

Thank you for giving up your Saturday evening. You will be the teachers learners remember: not because you know every app, but because you used the right tool, safely, to help them learn.

Festus Boamah