Domain 3 Teachers

Sub-Domain 3.1 Teachers Create ICT-enriched Learning Experiences				
Indicator	**1**	**2**	**3**	**4**
3.1.1 Design of ICT-enriched learning experiences	Teachers adopt ICT tools to support existing classroom practices.	Teachers adapt ICT tools for their lessons. They integrate technology to improve existing classroom practices.	Teachers design ICT-enriched learning experiences and harness technology for engaged learning.	Teachers transform learning experiences by embracing and using technology innovatively.
Exemplars	The teacher uses a podcast downloaded from the internet for listening comprehension. The students listen to the podcast repeatedly to practise their listening skills instead of listening to the passage from a tape recorder.	The teacher plans a lesson on 'Digestive System' by leveraging a simulation tool. The tool allows the students to manipulate a probe to explore and study the route for the food in a human digestive system. The teacher decides to create learning stations for students to explore the digestive system using the simulation tool instead of frontal teaching. Through the various simulations, the students acquire a deeper understanding of the function of each organ and are better able to visualise each function.	The teacher designs a series of activities to enable the students to acquire the skills and knowledge of the geographical concepts in the lessons on 'Rivers'. The teacher gets the students to work in groups of three to observe and study the characteristics of the landforms and features along the Nile River in a 3D online map with a navigation guide. Each student is assigned two river features to do a more in-depth study. To check their understanding, the teacher gets each student to use the photographs uploaded to a photograph management and sharing application to identify and deduce the features along the course of the river by adding comments to the photographs. The teacher provides feedback on the accuracy of the students' interpretation of the river features and expands their understanding by getting them to look at one another's comments on the different photographs. The teacher then gets the students to work in their groups of three to create a multimedia slideshow on the formation of the river features in an online annotation tool. The students describe and explain the formation of the river features by recording the description and making annotations on the photographs. The teacher gets the students to do a virtual gallery walk of all the groups' presentations and comment on one another's work using a set of rubrics. From the group presentations and peer assessment reviews, the teacher assesses the students' level of understanding and learning and reviews her lessons.	The teacher provides a real world problem to the students on the study of pollution and its effect on the environment. The teacher gets the students to work in groups of four to propose measures to the government to reduce pollution in Singapore. The teacher leverages a Web 2.0 tool to set up a platform for students to collaboratively brainstorm on the types of pollution, plan for the type of data to collect and analyse as well as consolidate results and put up their proposals. Some parents are also roped in as online mentors to the students. The teacher probes students' thinking to encourage them to extend their learning. The teacher then helps them establish contact with an environmentalist to gain a more in-depth knowledge of the content via video conferencing. The teacher ensures that the students are on track and monitors their progress through chats and email. For reflection, the teacher facilitates a discussion forum among the students and the environmentalist gives ratings and comments to the students' projects. Online polling by students using a set of rubrics is also conducted to select the best project ideas.

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3.1.2 Design of ICT-enriched learning experiences for SDL and CoL	Teachers provide specific instructions, learning activities and resources as well as close monitoring of students' learning process in setting and achieving learning goals and group goals.	Teachers scaffold students' learning in setting learning goals and facilitate groups to complete individual assigned tasks as well as achieve group goals.	Teachers design learning activities that teach students to set learning goals and manage and monitor their own learning, as well as to construct knowledge collaboratively.	Teachers design learning activities that allow students to independently set learning goals, and manage and monitor their own progress as well as extend their learning. They also teach students to inquire collaboratively to create new ideas, products or ways of viewing things.
Exemplars	The teacher instructs the students to fill in their last performance grades and project what they aim to achieve at the end of the year in their e-portfolio and update their grades semestrally. The teacher groups the students, assigns each member a role and informs them of the learning objectives for the topic. The teacher then provides a list of websites for the students to gather information on extinct animals and use an online spreadsheet to classify the animals under different given headings. The teacher prepares a webpage for the students to upload their spreadsheets to share among their peers.	The teacher prepares a webpage for the topic of 'Magnets'. The teacher uses an online form to survey the students' prior knowledge and learning goals about 'Magnets'. The teacher creates a template in an online mind mapping tool for the students to build on their learning about magnets as they progress through the topic. The teacher also uses experiments and simulations to demonstrate the properties of magnet as well as magnetic and non-magnetic materials. The teacher provides a list of websites for the students to learn more about the use of magnets in their daily lives. This information is added onto the online mind mapping tool before they are uploaded to the webpage to share among their peers. To extend learning, the teacher gets the students to work in groups to create a gadget that makes use of the properties of magnets. During the online discussion, the teacher guides the students to decide on the type of gadget to create and monitors them as they work on their gadgets. The teacher reminds the students to re-look at their learning goals and reflect on their learning in the webpage.	The teacher creates e-portfolios for the students to set their learning goals and record their learning progress in the study of 'Land Deforestation', from the perspectives of a farmer, a politician and an environmentalist. The teacher invites the students to state what they want to learn about 'Land Deforestation' in their e-portfolios. The teacher groups the students and gets them to learn about 'Land Deforestation' from the perspective they have chosen. The teacher gets the students to use a social bookmarking website to provide a list of websites on deforestation and encourage them to build on the list when searching for information. The teacher also encourages the students to share their views and comments as well as recommend websites and resources to other groups. The teacher advises the groups to look at the various views and comments to make a stand as a group as well as present and justify their views in the discussion forum in the school's Learning Management System. The teacher moderates the online discussion. The teacher reminds the students to consolidate the main learning points in their e-portfolios.	The teacher designs a learning task that requires the students to prepare for a debate on 'Singapore should build a nuclear plant'. The teacher creates a webpage and assigns each group a page to set their learning goals and timeline to complete their tasks, list the resources as well as assign roles and responsibilities to group members. The teacher also empowers them to create additional pages if required. ***(goal setting independently)*** The teacher works with the students to design the assessment rubrics for the debate while each group puts together a summary of all the evidences to be used in a debate. The teacher constantly asks open-ended questions to assess the students' understanding and depth of analysis, and moderates their exchanges. The teacher also establishes connections with an environmentalist, a health authority, an economist, a politician and a housewife to allow the students to seek different perspectives on the topic. The teacher then uses an online debate platform to conduct a debate and chairs the debate. The groups state their stand on the motion and key in their rebuttals to refute the statements made by other groups. In class, the teacher highlights interesting rebuttals and supporting evidences and calls the class to vote for the best team using the assessment rubrics co-designed earlier. The students then refer to the webpage to do an individual and group reflection on their experiences and the learning process. The teacher refers to the students' reflections to assess the effectiveness of the teaching strategy and refines the lesson.

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3.1.3 Teacher collaboration facilitated by ICT	Teachers share and exchange ICT-enriched learning and teaching resources.	Teachers improve classroom practices by collaboratively designing ICT-enriched learning experiences for students.	Teachers collectively inquire to reflect on their classroom practices to create ICT-enriched learning experiences that are learner-centred.	Teachers collectively inquire to continuously reflect, improve and innovate on their classroom practices.
Exemplars	Teachers share lesson plans and ICT resources with their colleagues during PD time and via the school's and cluster's repository portals as well as the cluster sharing.	Teachers form professional learning teams to design and implement a lesson package that incorporates the use of Web 2.0 tools to support inquiry-based learning. They use the online document to organise and consolidate their discussion.	Teachers in their professional learning teams design a lesson package that incorporates the use of Web 2.0 tools to support collaborative learning. They use a webpage to facilitate their discussion and upload the lesson package to the site to gather feedback from members to refine the package before implementation.	Teachers are part of a professional learning team that uses zonal portal to discuss and generate ideas for ICT-based lesson packages that incorporate the use of Web 2.0 tools to support inquiry-based learning. Taking on the cyclical approach to lesson development and conduct action research, teachers collaboratively design, implement, review and refine the teaching packages. Based on the review of the lessons at the end of the first cycle, they proceed to review the inquiry-based learning approach and refine the various lesson packages for the whole year. The process is repeated.