MYP Technology

MYP Technology Objectives At Qatar Academy

CONTENTS

Contents

Qatar Academy Vision

Qatar Academy provides the highest possible standard of education, fostering academic excellence in each student, and striving to develop independent critical thinkers, lifelong learners and responsible citizens.

Qatar Academy Mission

It is the mission of Qatar Academy (QA) to provide internationally accepted, comprehensive, English medium programs plus Arabic and Islamic studies from pre-school through to secondary graduation. QA develops independent critical thinkers, lifelong learners, responsible citizens, and empowers students to gain entrance to elite universities and colleges.

MYP Technology

Statement of Beliefs about Teaching and Learning

The MYP holistic approach to teaching and learning acknowledges that inquiry and problem solving contribute to students' development of thinking skills and strategies that will equip them to face the rapidly changing demands of the 21st century.

MYP technology aims to provide the means and the context to help students become skillful problem solvers, who can appreciate the role of technology in everyday life and society and who can respond critically and resourcefully to real-life challenges.

The MYP technology course intends to:

- challenge all students to apply practical and creative thinking skills to solve problems in technology
- encourage students to explore the role of technology in both historical and contemporary contexts
- raise students' awareness of their responsibilities as world citizens when making decisions and taking action on technology issues.

MYP Technology Yearly Objectives

Investigation

Grade 10 Investigation

The student explains the problem and its relevance.

The student critically investigates the problem, evaluating information from a broad range of appropriate, acknowledged sources.

The student develops a detailed Design Specification.

The student describes detailed methods for appropriate testing to evaluate the product/solution against the design specification.

The student evaluates the importance of the product for life, society and the environment.

Grade 9 Investigation

The student explains the problem.

The student discusses the relevance of the problem to themselves and their environments.

Sources are acknowledged within an alphabetized MLA formatted bibliography.

The student evaluates information from at least four sources: at least one example of a previous approach to solving the same or a similar problem, at least one related to the tools the student plans to use to solve the problem and at least one related to the problem itself.

The student develops a detailed Design Specification which is appropriate for the task.

The Design specification lists non trivial criteria and explains why the given criteria are appropriate.

The student describes detailed testing methods which explain who will do the testing, when it will be done and how it will be conducted.

The student describes detailed testing methods, which include how the results of the testing will be collected and presented.

Surveys, questionnaires or interview questions are complete and appropriate.

The student answers the question: How could this product be expanded so it would have an impact on Life, Society and the Environment?

The student evaluates the importance of the product for life.

The student evaluates the importance of the product for society.

The student evaluates the importance of the product for the environment.

Grade 8 Investigation

The student discusses the problem.

The student discusses the relevance of the problem to themselves and at least one of their environments.

The student evaluates information from at least three sources: at least one example of a previous approach to solving the same or a similar problem, at least one related to the tools the student plans to use to solve the problem and at least one related to the problem itself.

Sources are acknowledged with an MLA formatted bibliography.

The student develops a detailed Design Specification which is appropriate for the task.

The student describes detailed methods for appropriate testing to evaluate the product/solution against the design specification.

The student describes detailed methods, which include how the results of the testing will be collected and presented.

The student answers the question: How could this product be expanded so it would have an impact on Life, Society and the Environment? The answer considers at least 2 of the 3 areas.

The student discusses the importance of the product for life, society and the environment. The answer considers at least 2 of the 3 areas.

Grade 7 Investigation

The student discusses the problem providing guiding questions for their project.

The student discusses the relevance of the problem to themselves and/or at least one of their environments.

The student summarizes and discusses information from at least three sources: at least one example of a previous approach to solving the same or a similar problem, at least one related to the tools the student plans to use to solve the problem and at least one related to the problem itself.

Sources are acknowledged with an MLA formatted bibliography.

The student develops a detailed Design Specification which is appropriate for the task.

The student describes detailed methods, which include how the results of the testing will be collected and presented.

The student answers the question. How could this product be expanded so it would have an impact on Life, Society and the Environment? The answer considers at least 1 of the 3 areas.

The student discusses the importance of the product for life, society and the environment. The answer considers at least 1 of the 3 areas.

Grade 6 Investigation

The student discusses the problem providing guiding questions for their project.

The student discusses the relevance of the problem to themselves and/or at least one of their environments.

The student summarizes and discusses information from at least three sources from at least two of the following categories: a previous approach to solving the same or a similar problem, the tools the student plans to use to solve the problem and the problem itself.

Sources are acknowledged with an MLA formatted bibliography.

The student develops a detailed Design Specification which is appropriate for the task.

The student describes detailed methods for comparing the product to the Design Specification.

The student answers the question. How could this product be expanded so it would have an impact on Life, Society and the Environment? The answer considers at least 1 of the 3 areas.

The student discusses the importance of the product for life, society and the environment. The answer considers at least 2 of the 3 areas.

Design

Grade 10 Design

The student generates a range of feasible designs.

Each design is evaluated against the design specification.

The student justifies the chosen design and evaluates it fully and critically against the design specification.

Grade 9 Design

The student generates a range of feasible designs.

The designs are distinctly different either in content or technology used.

Each design is fully evaluated against the design specification.

The student clearly identifies the Chosen Design.

The Chosen Design is evaluated fully and critically against the design specification.

In the evaluation of the chosen design the student discusses pro and cons of the design as well as describing the limitations of the design.

Grade 8 Design

The student generates a range of feasible designs.

The designs are different either in content or technology used.

Each design is compared to the design specification.

The student clearly identifies the Chosen Design.

The Chosen Design is evaluated fully against the design specification.

In the evaluation of the chosen design the student identifies pro and cons of the design as well as identifying the limitations of the design.

Grade 7 Design

The student generates at least 3 feasible designs.

The designs are different either in content or technology used.

Each design is compared to the design specification.

The student clearly identifies the Chosen Design.

The Chosen Design is evaluated fully against the design specification.

In the evaluation of the chosen design the student identifies pro and cons of the design as well as identifying at least one limitation of the design.

Grade 6 Design

The student generates at least 2 feasible designs.

The designs are different either in content or technology used.

Each design is compared to the design specification.

The student clearly identifies the Chosen Design.

The Chosen Design is evaluated against the design specification.

In the evaluation of the chosen design the student identifies pro and cons of the design.

Plan

Grade 10 Plan

The student produces a plan that contains a number of detailed, logical steps that describe the use of resources and time.

The student critically evaluates the plan and justifies any modification to the design.

Grade 9 Plan

The student produces a plan that contains detailed, logical steps.

The plan includes a list of the resources that will be used, including hardware, software, tools, sources of information, and anything else that will be used to make the product.

The plan clearly shows the order that the steps will be done and also which steps will be done concurrently or consecutively.

The plan clearly shows how the time to create the product will be used.

The plan identifies the knowledge and skills required to create the product and how these will be acquired.

The student critically evaluates the plan.

The evaluation of the plan considers the time available for the create stage and the ability of the student to complete the steps laid out in the plan.

The student evaluates the feasibility of the plan, by considering if someone else would be able to create the same product given the student's plan and design.

The student justifies all modifications to the design.

Grade 8 Plan

The student produces a plan that contains an adequate number of detailed, logical steps.

The student examines the feasibility of the plan, by considering if someone else would be able to create the same product given the student's plan and design.

The plan includes a list of hardware or materials that will be used to create the product.

The plan includes a list of the software and/or tools that will be used to create the product.

The plan includes an indication of how the time used to create the product will be used.

The plan identifies the knowledge and skills required to create the product and how these will be acquired.

The student evaluates the plan by comparing the time required to the available time, and by considering the skills of the student.

The student justifies a modification to the design.

Grade 7 Plan

The student produces a plan that contains an adequate number of logical steps.

The plan includes a list of hardware or materials that will be used to create the product.

The plan includes a list of the software and/or tools that will be used to create the product.

The plan includes an indication of how the time used to create the product will be used.

The plan identifies the knowledge and skills required to create the product and how these will be acquired.

The student evaluates the plan by comparing the time required to the available time, and by considering the skills of the student.

The student discusses the feasibility of the plan, by discussing if someone else would be able to create the same product given the student's plan and design.

Grade 6 Plan

The student produces a plan that contains an adequate number of logical steps.

The plan includes a list of hardware or materials that will be used to create the product.

The plan includes a list of the software and/or tools that will be used to create the product.

The plan includes an indication of how the time used to create the product will be used.

The plan identifies the knowledge and skills required to create the product and how these will be acquired.

The student discusses the effectiveness of the plan.

Create

Grade 10 Create

The student competently uses appropriate techniques and equipment.

The student follows the plan and justifies any modification made, resulting in a product/solution of appropriate quality using the resources available.

Grade 9 Create

The student competently uses appropriate equipment with minimal assistance.

The student uses appropriate techniques with minimal guidance.

The student produces a good product which functions and can be tested.

The student produces a process journal indicating how the time spent creating the product/solution was used.

The student documents the changes made to the plan while the product/solution was created.

The student explains why the changes made to the plan were necessary.

The student documents any changes made to the design while the product/solution was created.

The student explains why any changes made to the design were necessary.

Grade 8 Create

The student competently uses appropriate equipment with assistance.

The student uses appropriate techniques with guidance.

The student produces a good product which functions and can be tested.

The student produces a process journal indicating how the time spent creating the product/solution was used.

The student documents the changes made to the plan while the product/solution was created.

The student explains why the changes made to the plan are necessary.

The student documents any changes made to the design while the product/solution was created.

The student explains why any changes made to the design were necessary.

Grade 7 Create

The student competently uses appropriate equipment with assistance.

The student uses appropriate techniques with guidance.

The student produces a good product which functions and can be tested.

The student produces a process journal indicating how the time spent creating the product/solution was used.

The student documents the changes made to the plan while the product/solution was created.

The student explains why the changes made to the plan were necessary.

The student documents any changes made to the design while the product/solution was created.

The student explains why any changes made to the design were necessary.

Grade 6 Create

The student competently uses appropriate equipment with assistance.

The student uses appropriate techniques with guidance.

The student produces a good product which functions and can be tested.

The student produces a process journal indicating how the time spent creating the product/solution was used.

The student documents the changes made to the plan while the product/solution was created.

The student explains why the changes made to the plan were necessary.

The student documents any changes made to the design while the product/solution was created.

The student explains why any changes made to the design were necessary.

Evaluation

Grade 10 Evaluation

The student evaluates the success of the product/solution in an objective manner based on the results of testing, and the views of the intended users.

The student provides an evaluation of his/her own performance at each stage of the design cycle and suggests improvements.

The student provides an appropriate evaluation of the impact of the product/solution on life, society and/or the environment.

Grade 9 Evaluation

The student evaluates the success of the product/solution in an objective manner based on the results of testing as described in the investigation.

The student evaluates the success of the product/solution in an objective manner based on the views of the intended users.

The student provides an evaluation of his/her own performance at each stage of the design cycle and suggests realistic ways that the student could have worked better on some of the stages.

The student describes how their product could be expanded to have an impact on life, society or the environment.

The student provides an appropriate evaluation of the impact of the expanded product/solution on life, society and/or the environment.

Grade 8 Evaluation

The student evaluates the success of the product/solution based on the results of testing as described in the investigation.

The student evaluates the success of the product/solution based on the views of the intended users.

The student provides an evaluation of his/her own performance at each stage of the design cycle and suggests possible ways that the student could have worked better on some of the stages.

The student describes how their product might be expanded to have an impact on life, society or the environment.

The student discusses the impact of the expanded product/solution on life, society and/or the environment.

Grade 7 Evaluation

The student evaluates the success of the product/solution based on the results of testing.

The student evaluates the success of the product/solution based on the views of the intended users.

The student provides an evaluation of his/her own performance at each stage of the design cycle and suggests ways that the student could have worked better on some of the stages.

Grade 6 Evaluation

The student evaluates the success of the product/solution based on the results of testing.

The student evaluates the success of the product/solution based on the views of the intended users.

The student provides an evaluation of his/her own performance at each stage of the design cycle and suggests ways that the student could have worked better on some of the stages.