

Revised MEMORANDUM OF UNDERSTANDING
on the
MANAGEMENT INFORMATION STREAM (MIS) e-MATERIALS PROJECT
BETWEEN
KINGDOM OF JORDAN MINISTRY OF EDUCATION
and
JAID PRODUCTIONS
and
THE ACADEMY FOR EDUCATIONAL DEVELOPMENT

THIS MEMORANDUM OF UNDERSTANDING is entered into by and between the Ministry of Education of the Hashemite Kingdom of Jordan (the “Ministry”), JAID Productions (“JAID”) and the Academy for Educational Development (“AED”) with reference to the following:

- A. The Economic Reform for the Knowledge Economy initiative has begun a national reform that calls for the delivery of effective e-learning to its citizens, under ERfKE’s Component 2 (the “ERfKE Reform”).
- B. Over Two hundred MIS schools in Jordan (the “MIS Schools”) are beneficiaries of the MIS curriculum under the ERfKE Reform.
- C. The Ministry and JAID desire to work together on a project for the development of e-Materials based on the Jordanian curriculum (the “e-Materials”).
- D. In connection with the development of e-Materials to meet the following goals of the Initiative, the Ministry, AED and JAID desire to work together on the pilot implementation of the e-Materials in MIS program schools (the “e-MIS Project”).
- E. The United States Agency for International Development (“USAID”) has agreed to finance the creation of the “e-Materials” for the MIS program, through the ERfKE Support Project (“ESP”), managed by the Academy for Educational Development.

ERfKE’s objectives¹ are to:

- *Educate Jordanians to be innovative thinkers who can locate, analyse and communicate information, and who can work with one another to create a prosperous Knowledge Economy for all.*
- *Encourage teachers and students to use information and communications technology (ICT) to broaden and deepen teaching and learning, through*

¹ The six points rephrase the six main curriculum reform objectives as stated in The Curriculum and Assessment Framework, 2003.

inquiry and the active use of technology to research information, process and communicate it worldwide in ways required by the Knowledge Economy.

- *Foster student innovation, encouraging learners define their own learning, innovating by setting goals and using their talents and creativity to follow their interests.*
- *Empower teachers to help students reach learning outcomes, giving them more freedom to select resources and vary the order in which they introduce topics, in order that students in turn have access to multiple sources of knowledge and to instruction that meets their individual learning needs.*
- *Vary the ways in which learning is assessed and evaluated by supplementing tests and examinations with other means that credit students for teamwork, presentations, research and other skills and competencies they acquire.*
- *Mobilize educators, specialists, and communities from across Jordan in the creation of the new reforms, so that ERfKE enjoys broad societal understanding and support as it is being implemented.*

The Ministry, AED and JAID are also referred to as the “Parties” hereafter.

WHEREAS

- A. The Parties wish to enter into this Memorandum of Understanding (“**MOU**”) to engage in a cooperative effort to develop MIS e-Materials based upon the Jordanian Management Information Stream curriculum (the “e-Materials”).
- B. The Parties will ensure that the e-Materials produced under this agreement meet the ERfKE objectives and the Curriculum and Assessment Framework for the Kingdom of Jordan produced by the Directorate of Curriculum and Textbooks and with current and proposed curriculum development in the MIS subject area.
- C. The Parties will ensure that the e-Materials meet the highest international standards for both the subject area and for curriculum and e-curriculum development.
- D. The Parties will ensure that the e-Materials are produced using international standards of project management including project management structures, planning, communication, reporting, and evaluation.
- E. The Parties will ensure that the e-Materials are produced in order to build the capacity of the Ministry to manage and to develop the e-learning materials development process, with significant public-private partnership in production and design.²
- F. AED’s subcontractor, JAID will deliver the required implementation phases of the e-Materials in terms of deployment in all Jordanian schools (public, private) that offer the MI Stream curriculum, providing technical support for

the first year after the final version of the e-Materials are delivered and implemented (note: the project will end in June, 2008) and training to the Ministry's teacher trainers on e-MIS and related technical support. JAID will also contribute to the training of pilot teachers on the e-materials themselves (11 schools, all MIS teachers using the e-material). Further, JAID will warrant that the Curriculum software will meet international standards, will be error free, and will perform as expected and without interruption when deployed on the EduWave platform.³

- G. The Parties agree to work collaboratively with the Ministry to ensure that the e-Materials are available for use and owned by the MoE, which will possess copyrights under its agreement with the U.S. Agency for International Development (USAID),⁴ and will receive a copy of all content developed by the Project.

THE PARTIES AGREE AS FOLLOWS:

1. Project Implementation. The Ministry, AED and JAID will work cooperatively and in good faith to develop and implement the Project, in a manner consistent with the goals of the ERfKE Reform and the needs of Jordan and Jordanian students as per the terms of our mutual agreement. AED shall be responsible for the overall project oversight and funding, and JAID shall be responsible for the project management and technical design of the Project. A project plan developed by JAID utilizing appropriate project management methodology will be developed and approved by the Technical Supervisory Committee before work begins on the Project.
2. Management Structure: The parties agree to institute a management structure for the project to include a Project Steering Committee (PSC), a Technical Supervisory Committee and a designated Project Manager. Approval for the Project Plan and all deliverables and milestones will be authorized by the Technical Supervisory Committee (TSC), which will review and evaluate every phase. The Steering Committee will have representatives of senior management from JAID, AED, and the Ministry and others as agreed by them. The Technical Supervisory Committee will have representatives from MoE's Curriculum Directorate, Digitization Directorate, and consultants from academia, and from ESP's Youth Technology and Career component. The Project Manager will be principally from JAID, with overall coordination of the project assigned to ESP.
3. USAID Concurrence. It is acknowledged by the Parties that the ERfKE Support Project is a U.S. Government funded program through the U.S. Agency for International Development. As such, AED operates with and is subject to direction from USAID for all matters related to and funded by U.S. Government monies for activities on the ERfKE Support Project. The Parties agree decisions concerning all matters will be made with USAID input and concurrence wherever necessary.

³ JAID will not be responsible for interruptions due to disruptions in Internet connectivity, and this paragraph refers only to the e-MIS modules on the EduWave platform.

⁴ Copyrights will be detailed in a separate agreement between USAID and the Ministry of Education.

4. Modifications/Change Orders. Furthermore, the relationship of AED and JAID is that of prime recipient and sub-recipient. AED has engaged and funded the services of JAID through a sub-agreement with specific program objectives and budget restrictions. Any program activities to be undertaken by JAID that represent a deviation from the contracted program description scope and budget shall not commence without AED review and concurrence (and USAID if appropriate), and a subsequent modification to the AED-JAID sub-agreement where necessary.
5. Deployment of e-Materials: Upon approval of the Project Steering Committee and the MOE the e-Materials will be deployed in all Jordanian schools (public, private) that offer the MI Stream program, and as stipulated above, without any fees for the licensing of the content included in the e-Materials.
6. Further Deployment in Jordan. The Parties contemplate that, following the successful deployment of the e-Materials in all Jordanian schools (public, private) that offer the MI Stream program, there will be a further deployment of e-Materials to future MIS program schools upon approval of the Board of Education. The scope and implementation of further deployment will be as agreed by the Ministry and JAID.
7. Rights in e-Materials: USAID reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for U.S. Government purposes, and to authorize others to do so. USAID grants the Jordanian Ministry of Education copyright of the e-materials.
8. Limitations: The provisions of this Understanding are to be undertaken by the Parties on best endeavors and non-exclusive basis only and neither of the Parties shall have any claim, whether legal or equitable, against the other Party, pursuant to any purported breach or non-compliance with the provisions of this Understanding.
9. Publicity: The Parties will coordinate all public statements and other disclosures with regard to this Understanding. Neither Party may enter into any publicity regarding this Understanding unless it receives prior written permission from the other Parties.
10. Intellectual Property of Other Parties. The provisions of this Understanding does not grant the Parties any license or other rights to any trademarks, logos or other intellectual property of the other party, and use of any such other Party's intellectual property must be governed by a separate trademarked license agreement. In all respects, this Agreement shall be governed by and constructed in accordance with the laws of the Hashemite Kingdom of Jordan. If any provision of this Agreement is held to be invalid or unenforceable for any reason, the remaining provisions will continue in full force without being impaired or invalidated in any way. The Parties are independent contractors, and no agency, partnership, joint venture or employee-employer relationship is intended or created by the Agreement. Neither of the Parties will make any warranties or representations on behalf of the other.
11. The e-learning material must bear the logo of the Ministry of Education when deployed in schools in Jordan, with reference to JAID as the developer of the material, and to USAID as the funder of the e-material.

12. Entire Agreement. This Agreement and its Exhibits attached hereto embodies the entire understanding of the Parties with respect to the matters contained or referred to therein and there are no promises, terms, conditions or obligations oral or written, express or implied other than those contained in this Agreement or its Exhibits.
13. General Provisions: None of the parties may assign this Memorandum or any interest or rights granted hereunder to any other party without the prior written consent of the other party which shall not be unreasonably withheld. A change of control or reorganization of either party pursuant to a merger, sale or transfer of assets, or sale or transfer of stock or other ownership interests will not be deemed to be an assignment under this Memorandum. This Memorandum and performance under this Memorandum shall be governed by the laws of the Hashemite Kingdom of Jordan.
14. Official Version. The English version of this Memorandum of Understanding will serve as the official document of agreement. All notices regarding changes, additions, interpretation or disagreements concerning the terms of this Agreement shall be directed in writing to the following individuals or their successors:
- For JAID: Batoul Ajlouni
- For the Ministry of Education: Dr. Fawwaz Jaradat
- For AED: Jeffrey A. Coupe
17. Amendments and Termination: This Understanding is effective upon the date that it is executed by all three Parties. The MOU may be amended or modified by written agreement of the Parties. All Parties may jointly terminate this MOU, in whole or in part, by giving each other thirty (30) days written notice if other Parties fail to comply with any provision of this MOU.

IN WITNESS WHEREOF, the parties have entered into this Memorandum of Understanding as of the ____ day of _____, 2007.

Ministry of Education of the Hashemite Kingdom of Jordan

By: _____
Name: _____
Title: _____

The Academy for Educational Development

By: _____
Name: _____
Title: _____

JAID Productions

By: _____
Name: _____
Title: _____

EXHIBIT A

Expected Outcomes: MIS-Online

MI Stream Integrated e-Learning Program, referred to as e-MIS or MIS-Online, will be an interactive set of Six Story lines distributed among two educational levels each level is equal to one semester these stories that will be developed to enhance the teaching and learning of the six MI Stream subjects. To accomplish this objective, the MIS-Online will integrate the Ministry's overall MI Stream curriculum. MIS-Online will be available for use by all Jordanian students in grades 11 who are enrolled in the MI Stream program. This online learning program will be an integral part of the Ministry's MI Stream curriculum.

To achieve these objectives, MIS-Online will include the following main elements:

- The MIS-Online modules will be based on the matrix of scope and sequence for the six MI Stream subjects, subject to transdisciplinary curriculum integration through design.⁵ The MIS-Online modules will **NOT** be a simple linear replication of the content in the six MI Stream textbooks.
- In response to the goals and objectives of ERfKE, each MIS-Online module will be designed around the project based learning (PBL) approach and each module will guide the student through the process of carrying out learning projects that results in creating learning products that use multiple skills and MI Stream information and that demonstrate student knowledge and skills needed to accomplish real work.
- MIS-Online modules will strengthen students' ability to work in collaborative teams to accomplish the learning projects.
- MIS-Online modules will be blended, using multiple media, multiple means of interactive learning, to create a rich and relevant learning experience and the final product will be delivered through EduWave.
- The MIS-Online learning projects will be designed to simulate real-world challenges (within the context of the six MIS subjects) that companies, governmental organizations and NGOs face in to carry out their work in the knowledge economy. MIS-Online will link the e-Learning modules closely to businesses in the private sector to reflect real life experiences. The e-LWG will evaluate the projects for the integration in the MIS modules.
- MIS-Online learning modules will be designed to help teachers and students extend learning beyond the classroom.
- The MIS-Online modules and their related learning projects will be designed to help prepare students for the national exam by reinforcing core concepts and knowledge within each of the MI Stream subjects.
- The MIS-Online modules will actively leverage learning resources available from a variety of sources including:
 - o The Internet (by providing specific URLs or hints on searching for needed information that could be updated regularly by the MoE staff

⁵ The scope and sequence for the six stories are based on content strands developed by Ministry of Education.

- following the life of the project).⁶ The referral sites will be evaluated and approved by the MoE staff before being used by students;
- o The MIS text books (the e-Learning modules will referencing specific pages or chapters in the different text books that are related to the topics of the modules);
 - o Supplemental learning resources, such as Microsoft's CD-ROM on Visual Basic .Net computer programming, other e-Learning material on EduWave⁷, content in textbooks used in other courses, Jordanian case studies, articles, business reviews, surveys, annual reports, etc. and resources in the MIS-Online Resource Library (MIS-ORL)⁸ – as allowed and complying with copyrights and other rights assigned to intellectual property;
- Each MIS-Online module will be interactively linked to the MIS-Online Glossary comprised of core MI Stream terms and concepts and created as part of the e-MIS.⁹
 - Examples and case studies used to illustrate MI Stream concepts will be used as reference material for the students' learning projects and should be relevant and appropriate to Jordan. Examples from other countries can be used to show diversity and illustrate international standards, but a majority of such case material should come from Jordan or the region.
 - The MIS-Online modules will make use of software applications such as MS Office, Visual Basic.net, the MoE's accounting software, e-commerce applications etc. that students and teachers can access in the schools' computer labs or on the Internet, **rather than** attempt to integrate these functions into the learning management system.
 - The MIS-Online modules and learning system will be developed to run on the Ministry's EduWave e-learning platform. The modules must be developed to have modest demands on bandwidth connectivity.
 - The MIS-Online program will meet the needs of all students while also enabling gifted students to reach their full potential.
 - The design and development of MIS-Online will meet international standards.
 - The MIS-Online development process will include a plan for assessing the performance of the modules in preparation
 - The MIS-Online program will employ the student portfolio features as currently available within EduWave.

⁶ All URLs and web site resources must be approved by the Technical Supervisory Committee before they can become part of the MIS-Online system.

⁷ EduWave is an e-learning software platform developed by ITG.

(http://www.itgsolutions.com/ITG_products_eduwave.aspx) and adopted by the MoE.

⁸ The MIS-Online Resource Library (ORL) will be an online repository of supplemental learning resources, articles, case studies, white papers, web sites and content developed by teachers and students. Developing the start to the MIS-ORL is a required part of this RFP. The way that resources in the ORL will be organized will be developed collaboratively by the winning firm, the MoE and ESP. The ORL will include the facility to enable Ministry and ESP staff, teachers and others to add other resources over time and new material is identified.

⁹ The interactive MIS Glossary will be created in two parts. Part one will include all core terms and concepts highlighted in the six MIS textbooks and terms approved by the MIS-Online Technical Supervisory Committee and ESP. JAID will identify and provide additional terms and concepts to enrich the glossary. Part two will be a glossary of terms that will be developed over time by MI Stream teachers and students.

Overall Outputs

1. The main output of the project will be the set of 1 Introductory module, 6 MIS-Online teacher module and 26 **interactive online modules**, integrated together. Each module will enhance and support on a set of learning outcomes that are transdisciplinary and range across the learning outcomes of the MI subjects and the six crosscutting MIS themes. Further details about the approach to build these modules are provided later in this section.
2. The second output of the project is the **MIS-Online Online Resource Library** (ORL) which will be built at the modules' production progress. This online repository, which will be located on the EduWave platform, consists of links to public articles, case studies, white papers, reports, web sites as well as supplemental learning resources that are added by the various teams and linked with the modules parts as appropriate.
3. The third output is an **MIS-Online Glossary** comprised of core MI Stream terms and concepts. This interactive glossary will be created in two parts. The first part (the primary glossary) will include all core terms and concepts highlighted in the six MIS textbooks. The second part (the secondary glossary) will contain additional terms and concepts developed over time by the project team and later on by MI Stream teachers and students.
4. The fourth output is related to the MoE teacher capacity building. The project will produce a set of 6 core modules with learning content for the **MIS-Online for Teachers**. These modules are further elaborated under "Teacher Capacity Building" presented later in this section.
5. The fifth output is the **student portfolio**, which reflects performance and the acquisition of skills and competencies in the MIS field. As previously stated, the student portfolio features as currently available within EduWave, are to be utilized for this curriculum.

Student Learning Outcomes

The student learning outcomes of the MIS subjects will be achieved through a general sequence typified by three phases:

- **Competencies and Skills introduction:** Students will be introduced to the objectives of the learning module they are about to study via introductory materials prepared specifically for use in Jordanian classrooms. These materials will present specific program/project objectives for the e-Learning module being undertaken. This skills/competencies section will also link the e-Learning modules' content and objectives to specific content areas in the MI Stream textbooks related to the module. This will be done to enable students to see how different MI Stream subjects are related in real-life work situations, to enable students to draw on content from their textbooks in carrying out the

project, and to reinforce learning objectives important for succeeding on the MIS national exam. This introductory material will also reference how the e-Learning module is linked to the world-of-work in the Jordanian context.

- **Competencies and Skills instruction:** Either as part of a classroom instruction or as part of a self-guided exploration of the e-Learning module, students will explore interactive sections, which introduce, explain, and reinforce specific MI Stream skills and competencies. Specifically, MIS-Online components may include video clips such as interviews with business professionals related to the topic of the module, case studies, links to the MIS-Online glossary, a guide to carrying out the learning project, supplemental reading and reference material as needed, review of units and assessments of mastery of material.
- **Competencies and Skills integration:** Interdisciplinary computer-based activities should enable students to immediately put their MI Stream skills into action – in tasks that are associated with competency development. These activities will take advantage of the online learning platform in which MIS-Online is presented, allowing students to apply their new MI Stream skills to the creative development of theme-based projects they can share with their classmates and with other MI Stream classrooms around Jordan (if possible within EduWave). Each project will encourage students to use their newly acquired MI Stream competencies creatively to present information about their own experiences to others.

Learning Tool Outcomes

In order to achieve the Ministry of Education's MIS student learning outcomes, JAID will fully utilize the set of Internet-based tools and features available to students through the e-Learning platform EduWave. By integrating those toolsets with the PBL pedagogy, the produced online modules will contain activities promoting active and collaborative learning, in addition to building and enhancing a number of skills sets including communication, presentation, employability skills, and technology competencies. These skills are seen to be as important to the student in his/her future professional life as the subject matter itself.

Learning Enhancement Tools

Among the learning enhancement tools for student-centered, project-based learning to be developed and deployed by e-MIS are the following:

- **Self-assessments:** activities which provide students with the opportunity to test their understanding of the ideas and concepts covered in the online module or in some related text referenced by the module.
- **Exploratory:** activities that are designed for the students to see if they can work something out for themselves or to get them thinking about what is coming next.

Comments on such activities must follow directly, but the students should be encouraged to read the comments after they have given the question some thought!

- **Reading:** activities that request the students to review specific documents or material and then answer related questions.
- **Journal:** activities that are designed to help students develop into effective learners. Some of the activities are specifically directed towards improving the students learning and performance, whilst others encourage recording things like the outcomes of experiments or simulations. The results from the journal activities are a private record and should be not assessed. The journal activities are meant to encourage the students to write more freely of their thoughts and attitudes toward the course, and their learning experiences.
- **Summaries:** activities that allow students to draw together what they have learnt. It is recommended to have one of these activities at the end of each module.
- **Group:** activities that are to be undertaken within a group of students. This type of activity is meant to encourage effective online group work and collaboration. The result of such activities might constitute part of the module project. The individual reflection on the group work mechanisms might also be assessed.
- **Critique:** activities that involve reviewing a piece of work and evaluating it according to a certain criteria. The result of such activities might constitute part of the module project.
- **Workshops:** these activities are a form of multidimensional assessment where students share their solutions to a particular problem and then each student evaluates one or more of his/her colleague's solutions. The averages of these multidimensional assessments might be accounted for in the final assessment.
- **Visual Supplements:** activities that require the student to use certain visual supplements and tools including graphical representations, animations, simulations, and audio-video resources and then make a concise set of proceedings for what they have witnessed. These will be used where needed and applicable to enhance the students understanding of a certain topic, and develop certain skills.

Each strand will have a subset of these activities that will help the student to complete the project within the module and achieve the desired objectives.

Graphics and Multimedia Intensity. The overall MIS-Online curriculum will not make extensive use of unnecessary animation or cartoon-line content as the primary instructional and learning medium. Resources will be put into the development of quality learning materials and learning supplements, rather than into more expensive media development (video, etc.) of the materials and the number of digitized enrichments and resources will vary from module to module depending on the content, amount of information and learning outcomes to be covered by that specific module. JAID will develop up to 100 enrichments that will cover the developed overall materials.

EXHIBIT B

Organization of E-MIS Governance Structures and Instructional Design Process

The design of the MIS-Online system and individual modules will be a collaborative process involving the following three main participating groups:

1. The Technical Supervisory Committee comprised of Ministry of Education staff;¹⁰
2. The ESP/YTC team and advisors; and
3. The design and development team from the company selected to build the modules and to deploy the MIS-Online learning system.

The primary actors from each group are the following:

1. Ministry of Education – MoE
 - ◆ CD (Curriculum Directorate)
 - ◆ DD (Digitization Directorate)
 - ◆ ED (Examinations Directorate)
 - ◆ TD (Training Directorate)
2. ERfKE, Educational Support Project - ESP
 - ◆ CDM (Curriculum Development Manager)
 - ◆ STA (Senior Technical Advisor) and consultants
3. JAID Productions
 - ◆ Project Director
 - ◆ PE (Panel of Educational Experts - Local and International)
 - ◆ TT (Technical & Production Team)
 - ◆ SME (Subject Matter Experts)
 - ◆ IDT (Instructional Design Team and Subject Matter Expertise)
 - ◆ PSD (Professional Services Department) through ITG for EduWave related integration and training.

Ministry of Education is responsible for:

(a) Developing the design and content specifications of the e-learning materials through the Curriculum and Textbook Directorate, in coordination with the Division of E-Learning Material Production and Monitoring of the Digitization Directorate, which served as the basis of the RFP, and will be refined in the weeks to come;

(b) Developing with the partners, the quality assurance document that will guide the development of the modules.

¹⁰ Any possible payments made to members of the MoE's Technical Supervisory Committee for participating in the MIS-Online program should be made in accordance with USAID/Jordan regulations based on agreements with the MoE.

- (c) Developing the employability skills/knowledge economy skill outcomes that the e-MIS will target, in addition to the technology standards and competencies for secondary students (in MIS).
- (d) Monitoring progress towards agreed upon timelines and deployment plans, with the collaboration of ESP.
- (e) Providing the selection criteria for the script-writers (6-9)
- (f) Reviewing and approving all materials submitted to the Technical Supervisory Committee and the Steering Committee in a timely manner.
- (g) Identifying the schools which will participate in the pre-pilot, pilot and roll-out phases in the development process, per Ministry guidelines governing e-learning implementation.
- (h) Developing the tools for analyzing and evaluating e-learning materials which are being developed or offered for use in schools
- (i) Making source material available to local schools, in the event that some MIS schools are not connected to the Internet.
- (j) Undertaking the training of all MIS teachers in the use of the e-learning materials, once the teacher trainers have been trained by JAID.

JAID is responsible for:

- (a) Managing the design, implementation and evaluation of the e-MIS development process, under the direction of the JAID Project Manager.
- (b) Ensuring quality assurance, including the adherence of the materials to usability standards, SCORM standards, and the testing necessary to ensure the code is free of error (and submitting verification to the Ministry/in Ministry's presence that the code has been tested).
- (c) Ensuring that the material is workable within the EduWave e-learning platform, including all functionalities required in order to make the instructional design work.
- (d) Providing copies of the MIS-Online modules that could be deployed on local school web servers where Internet connectivity is not present as a way of enabling all students enrolled in MIS to benefit from the MIS-Online modules, until such time as the National Broadband Network connects every school ¹¹ in a manner that is compatible with the EduWave Offline Viewer.

¹¹ All parties recognize that not all functions present in EduWave would be implemented in schools using their own computers to host the XHTML versions of the MIS-Online modules.

ERfKE Support Project is responsible for:

- (a) Managing the overall project progress, as overseer of the e-learning subcontractor, with responsibilities split between the ESP Senior Technical Advisor (technical review and evaluation, planning, budgeting, monitoring), and the ESP Curriculum Development Manager (activity tracking, technical review, problem/challenge identification, coordination of technical inputs, creation of sets/subsets of learning objects, instructional design).
- (b) Providing technical review as member of the steering committee.
- (c) Providing technical inputs – learning objects, software, etc. that are experimental and/or considered enhancements and longer-term objectives to support e-learning.
- (d) Ensuring the resources and planning necessary for the roll-out of the e-MIS training of teachers.

Teams and Decision Structures

Most of the activities in producing the targeted deliverables will be performed by teams assembled from one or more of the above entities in the initial phase of the project.

The teams and the decision making structure they comprise will ensure that the process of creating the MIS-Online modules will be as cost effective and efficient as possible, and that the process will build the capacity of the MoE team. This collaborative team structure will also ensure that the modules are of the highest possible quality and that:

- MI Stream subject matter presented in the modules is accurate and complements that found in the textbooks and other learning material and software tools.
- Project-based learning and student centered pedagogy is effectively implemented within each module.
- The modules integrate content, including case studies, and themes present in the six MI Stream subjects.
- The MoE's standards for the MI Stream are effectively achieved through the modules.
- The student skills and knowledge is effectively linked to the world-of-work.
- The modules should vary instructional designs examples and real life applications, such as teaching and learning through analysis of work-based case studies and business simulations.

The Ministry of Education must approve the final MIS-Online system before it can be used in Jordanian classrooms.

The main teams are:

The Project Steering Committee (PSC): Consisting of ESP/PC, MoE CD, TD, DD, ED, a member of JAID management staff and MoE consultants. In

the remainder of this document, reference is made to these above teams and entities using the given abbreviations.

The Technical Supervisory Committee (TSC): This committee will consist of technical members from the MoE's academic subject experts (MoE CD and DD), JAID and ESP.

The Script Writing and Storyboard Team (SWT): This team will consist of the JAID Subject –Matter Experts and MoE Subject- Matter Experts. The MOE Members of this team will be paid and managed by JAID . MOE members of this team will be paid and managed by JAID. MoE members will be asked to work for 5 months with possibility for an extension. MoE SMEs will work 5 days a week, 9 hours per day (with one hour break) at a set of 300 JD monthly reward, with explicit pay arrangements specified in official correspondence between MoE and JAID- per mutual agreement between the Ministry of Education and JAID.

The committees and the partners will work on pre-agreed conditions which the must be met for the project to move from one stage to another. Among the agreements are the following:

1. Common agreement on roles of the committees themselves, the limits and extents of their duties, and as necessary, the conditions that must be met for their roles to be changed in the process.
2. Common agreement on the quality assurance criteria for the MIS-Online modules;
2. Common management procedures and templates for approvals, change orders, specification modifications etc. that must be agreed upon by the governing structures;
3. Common agreement on the storylines and templates in which prototypical content will be submitted prior to development in multimedia format;
4. Common agreement on graphics charters/style guides that specify the fonts, colors, photo dimensions and quality, etc. that the MIS-Online modules will utilize;
5. Common agreement on tests that must be performed to ensure the code is free of bugs and to ensure quality assurance standards are met;
6. Common agreement on evaluations required before modules move from the pilot to the pre-test and testing stages of development.

Committee Decision-Making and Materials Review. Once e-materials are submitted to the Steering Committee and Technical Committee for review and approval, these committees will have an obligation to take decisions in a timely manner. The time frames for review – which will vary according to the amount of work submitted - will be pre-agreed upon by the parties at the time of the submission. However, the Parties agree that for each approval cycle, the committees will receive a one-week advance notice of an upcoming submission of each storyline (consisting of an average of 4-5 modules) and will complete their review of a storyline and provide official feedback within 5 working days.

Phase Approvals. All phases (pilot and rollout) will be worked in complete collaboration with the Steering Committee, and should be approved by them prior to proceeding with the following phases.

Technical Feasibility. Technical feasibility will be evaluated early and often in the development process for MIS-Online. As the project progresses through the phases of pre-testing, testing and rollout, technical resources from JAID and ITG will be utilized to ensure the proper functioning of the modules. Some sections of the phases will be worked out in parallel and in the form of batches, in order to speed up the process.

These will however always be cross references and checked against each other and against the main Matrix at all times through the project director and supervisory educational and coordination team in order to avoid redundancy and ensure continuity, and full coverage of the objectives.

EXHIBIT C

Methodology

Instructional Design

The instructional design process will consist of eight phases mentioned below. It should be noted that the Technical Supervisory Committee will review and evaluate the following phases in a suitable time frame, granting approval to the e-learning company to proceed to the next phase. The phases below generally correspond to the E-Learning Development Monitoring, Evaluation and Reporting process described in the Ministry's 2005 Structural Plan.

Phase 1: Preparatory Activities: Content-Objective Matrix

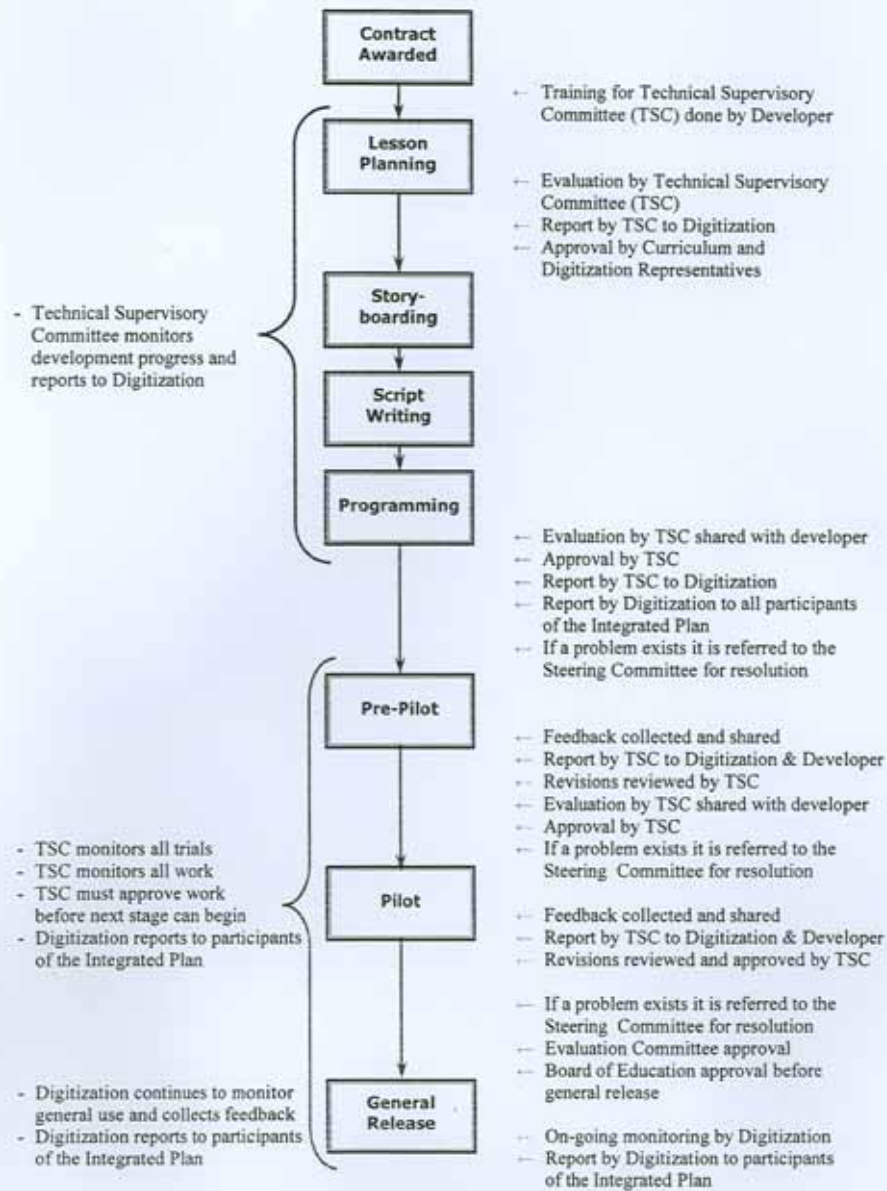
The project development framework for the e-MIS will be the Content-Objective Matrix, which covers the main set of outcomes intended for the project, and their high-level reflection on the development of the modules. As the matrix will integrate the MIS curriculum, the first activity will be to combine all outcomes of the MIS track and map the various outcomes to the proposed locations of the content in the proposed module sequence.

This Matrix will be a live document that will be updated over time, and it will act as the framework for the development of all related modules. Each module will be integrated within a PBL approach, and will have a set of outcomes inline with the outcomes of the MIS track as presented by the abstract concept of the content-objective matrix. However, as more modules are added, the matrix will be updated to incorporate changes and developments. Each module will have an average duration of approximately 5 one-hour class periods, but not all modules are expected to be of similar length. Each module will utilize an appropriate set of learning tools (see above) that is consistent with the pedagogy and are aligned with the instructional design elements and learning outcomes of the module.

Phase 2: Storyline Origination (Projects)

The learning outcomes of the MI Stream subjects will then be integrated through a sequence of consistent projects of what is here called "Storylines", where each covers up to 4 or 5 modules on average. Therefore, 6 storylines will be created, drawing experiences from industries, business enterprises, government agencies, and others. The stories will be aligned with 6 MIS integration themes identified by ESP and MoE this past year.

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The inputs to this phase of the project (storyline origination) and its expected outputs are the following:

- **Input:** The assumed input consists of the MI Stream textbooks, the learning outcomes specified for each of the six MI Stream subjects, and the MIS themes as well as the Content Objective Matrix which builds upon these points.
- **Output:** A set of approximately 6 “localized” storylines (or 26 modules) that are consistent and totally integrated with the contents of the MI Stream textbooks and learning outcomes, and at the same time in line with the 6 MIS themes created by the ESP and MoE. Note that storylines can be cumulative in the sense that one storyline can build on top of another and naturally modules within a storyline are cumulative in nature. As stipulated in the RFP, the storylines will be based on local metaphors of organizations.

Since this is a major task which has effect on the overall design of the 26 online modules, various experts will be involved in this task. Therefore, the e-LWG, educational experts and the Script Writing Team will be collaborating at this stage with the educational, instructional design, and script writing experts from the JAID team.

Phase 3: Production Planning Phase

The initial phase of the production process is a storyline that could span through a set of modules. This will produce a description of the module, or set of modules, and the outcomes it should serve as well as the skills needed for the module(s).

This planning phase is a very crucial because it acts as a detailed blueprint of the whole set of modules:

- **Input:** The initial inputs are the story line and content-objective matrix, which initially will have no online modules, but will be gradually modified in the production process.
- **Output:** The expected output from the planning phase is a document, referred to as the *modules plan*, which specifically addresses the following points:
 1. Prerequisite skills and learning outcomes.
 2. List of new skills and outcomes that will be obtained or enhanced through this module or set of modules.
 3. Number of online modules and title for each of the modules that comprise the storyline. This might also include detailed learning objectives and expected learning outcomes for each module. Note that these modules are integrated and cumulative in nature so one module should build on top of the skills acquired in the previous module.
 4. Modified content-objective matrix reflecting the new set of modules and corresponding learning outcomes.
 5. Assessment methods: Parts and justification for each part.
 6. Tentative number and types of activities per module.

7. Tentative work-plan for the production phases.

Actors for performing this phase: This is possibly the most important and time-sensitive phase of the production process. As stipulated in the RFP and based on the above team formulation, SWT will be involved in this phase. JAID PE will play an instrumental role in this effort.

Phase 4: Design Phase

The next main step would be to describe the manner in which the skills required for the module will be presented. In other words, the tools and pedagogical elements used to deliver the skills needed for the module should be discussed. Also, the various activities associated with the module should be outlined. So, once the planning phase is approved, selected members of the SWT should undertake the design phase. In addition, both ITG and JAID's technical team will be involved to assist the SWT in deciding which instructional tools supported by EduWave can be most appropriate for the modules and the various activities within the module. Factors involved in identifying the best tools to be used include: good mix of tools that will help support the underlying pedagogy, the need to consider bandwidth restriction, and the sparing use of resources. So, the design phase also deals with defining the requirements in terms of learning material, tools, products, simulations, animations, multimedia production and so on.

- **Input:** The module plan produced by the previous stage.
- **Output:** The expected outputs from this phase include:
 1. Supplements: specified modules that require external resources and how they will be made available.
 2. Additional learning resources: References to specific material in the MI subjects textbooks (if any), articles, animations, simulations, audio-video resources and so on.
 3. Supporting materials: Manuals for using certain systems if needed.
 4. The suggested entries to the MIS-Online Glossary which are necessarily drawn from the subjects which the module covers.
 5. The suggested resources that should be added to the ORL in support of the module activities.
 6. A how-to-use guide will be incorporated into the design of the e-MIS.

One of the outputs of this phase is the **Request for Supplements/Enrichments**, which should provide a full description for the required supplement and/or resource. Supplements and enrichments include animations, simulations, multimedia (audio/video) material, a set of presentation slides with audio and/or video, an on-line test (and other specific tools), etc. They can also take various formats of various learning objects: (a) a case or comparative study, (b) interviews, (c) debates, (d) roundtable discussions, (e) vignettes. The request for supplement is a free format description for the needed supplement. The authors will use textual, diagrammatic, edited images, or any explanation means to describe how the needed supplement should look like. For instance, the description may include scripts for audio/video, input/outputs for a computer program, detailed description of a simulation, edited images with comments for an animation, and so on. However, once submitted as a

request, the supplement “plan” – whether it be a storyboard, shot sequence, case description, on-line test battery – will need to be reviewed prior to production.

Multimedia Enrichments

E-content development projects described within this context consist of the development of multimedia content (multimedia enrichments) to be delivered to learners through a management system, either through specific locations in e-books, or as complete yet separate enrichment units and courses within the system.

The enrichments are divided into two categories; animations and simulations both enriched with sound and narration as needed and as applicable. Animations are used to visually explain complex ideas and concepts to the learner. Simulations carry the process a step further to include high interactivity and the possibility for learners to enhance their understanding through action and interaction and increase their level of comprehension on necessary skills and knowledge.

70 % of the enrichments will be interactive in nature – either fostering interactivity among students, between students and their teachers, or interactivity between the student and the online material. Enrichments should in many cases reinforce procedural knowledge, and should enable students to work at their own pace. They should be constructed non-linearly in order to enable students to move backwards and forwards through content.

In the preparation phase of a project, a special Project “work-flow map” is initiated to be followed by the project team of content experts, instructional & technology experts and subject-matter experts. This map includes the covered concepts and governs the relationship and information flow between team members internally, and from the client’s side. Groups are assigned and relations between these groups are defined as well, to set the logical sectioning and work flow.

Based on the project requirements and analysis activities that take place at the project initiation, storyboards are produced by a team of instructional designers, subject matter experts and artists from JAID Productions. These Storyboards will be audited internally by JAID’s quality assurance team, and then will be reviewed and audited by the e-LWG/Steering Committee for approval. Once approval has been given, JAID will produce the multimedia enhancements.

Learning objects (LO) will be critical to develop both within the framework of this project, and outside it. JAID will produce with the assistance of subject-matter experts and teachers in coordination with the MoE and ESP, the rich multimedia Learning objects necessary to fulfill the basic learning objectives, and will prepare a location preparation sheet to outline the design criteria and concept for each Enrichment location.

Based on the approved storyboards and the LOs, designers, animators and technical experts then start the development of the alpha versions of the enrichments. These draft Enrichments undergo internal multiple testing to achieve the final error-free state according to specific criteria established with the client’s scientifically approved version. The Enrichments are then sent to the client for final auditing and approval according to the agreed criteria. Finally, the enrichments are updated and a final

master version is produced, and integrated properly within the proper locations and framework.

Outside the project, JAID, the MoE and ESP will work to supplement the learning objects, and engage other MIS teachers in the production of objects which can enrich the MIS library. No particular plan has been established – only principle.

Phase 5: Development Phase

This phase includes the actual development of the visual supplements and tools, and will be implemented through the technical team at JAID, in coordination with the related members of the SWT to ensure full understanding and adherence to the intended objectives and approved designs. JAID will use graphics and animation only where applicable and as needed.

- **Input:** The plan and designs produced by the previous stages in addition to the Request for Supplements act as input for this stage.

- **Output:** The expected outputs from this phase include:

1. A set pages, documents, resources, supplements, and supporting material that comprise the online modules and containing the activities of the module. All these parts will be integrated within EduWave in coordination and collaboration with the Professional Services team of ITG.
2. The suggested entries to the MIS-Online Glossary, making proper linkages between these entries and the module activities.
3. The suggested resources to the ORL, making proper linkages between these resources and the module activities.
4. Teacher modules for the activities in the modules.

Phase 6: Pre-Pilot Assessment Phase

Assessment is a part of each of the above phases, but the alpha version of MIS-Online will then be pilot tested in eight schools prior to being piloted and rolled out in all MIS schools. Thus, the modules will enter various assessment phases prior to general release, and this testing is expected to take approximately 10 weeks. The e-LWG and the Technical Supervisory Committee will evaluate the results of the pre-pilot assessment, which will include:

1. ergonomic performance (navigability, ease of use for disadvantaged learners)
2. technical performance of the modules within the Eduwave platform
3. teacher evaluations and assessments of the modules.
4. student performance, including attitudinal assessments vis-à-vis textbook-oriented MIS instruction.
5. an evaluation of the conditional and situational factors that influence performance (i.e. screen size, browsers and versions, student-to-computer ratios, etc.).

- **Inputs:** The final form of the online modules and specific assessment instruments of the modules will be measured against the general criteria mentioned above. JAID will also provide training for all trainers of MIS pilot teachers.

- **Output:** The expected outputs are:

1. A detailed assessment report of the pre-piloted material.
2. A detailed list of required revisions.

Phase 7: Pilot Assessment Phase

Once piloted, the corrected and improved modules will then be implemented in between 8-14 secondary schools. Using the same evaluation instruments, evaluators from the MoE, ESP and JAID will then review the results and the Technical Supervisory Committee will recommend changes to the modules. These will then be introduced and the modules will be prepared for final acceptance and national roll-out.

Technical Note on Combining Phases 6-7

Because of the constraints regarding module testing and the two-year implementation period, the Parties will be discussing the merits of combining the Pre-Pilot and Pilot phases, and/or compressing the time frame for the testing cycle. A proposed project timeline is presented for discussion amongst the Parties, and will be subject to final approval by the Parties.

Phase 8: Training and Roll-Out Phase

During the training phase, ***JAID will produce with its partners a set of instructional training modules “Teacher Modules”***, and will train the Core pilot teachers team. The actual training on the use of the MIS Online material will be incorporated within the main teachers’ guide/manual through their use as examples and demonstrations. ESP will be working on the teachers’ guide and co-planning templates necessary for fostering co-planning among MIS teachers at the school level.

The JAID-provided training will target two areas:

1. **EduWave Proficiency:** EduWave is the main platform available for teachers, students and administrators at schools, and it provides a number of features and integrated toolsets that actively assist them in the daily teaching/learning activities. The teacher’s manual will contain a sequence of activities through which the teacher will be exposed to the complete set of teacher tools available in the EduWave platform, and how to apply them using the developed content. This module will be based upon the training material and activities provided by Integrated Technology Group for EduWave as part of the EduWave Certificate Program, and will be worked out in collaboration with ITG. This training will include: e-content use, EduWave Portal (teachers and students users), and EduWave Authoring tool and related functionalities.
2. **Use of MIS-Online storylines and modules, and their introduction in the classroom.**

ESP-provided training will focus on the following:

3. Professional Development, Integrating Technology & MIS Online into Classroom Teaching, and PBL: This set of modules provides a useful overview of collaborative co-planning among members of the learning team, the use of the co-planning template for storylines and modules, the process of transdisciplinary curriculum integration, reflective learning strategies and at the same time it will act as a resource for the teachers to encourage their students to focus on learning, and to reflect, self-assess and self-evaluate. The module will contain suggestions on good practices, starter forum postings, as well as recommendations for assuring active student participation on the learning process. The module will connect MIS-OnLine to educators in the MIS community of practice, which will have received training on project-based learning starting in 2006.

As part of capacity building efforts, the MoE training department staff and supervisors will be trained by JAID, ITG and related teams on these modules in a “train-the-trainee” approach. Accordingly, the MoE teachers will carry on the training activities for teachers in schools. These activities will be planned and scheduled in accordance to the project plan and progress.

Exhibit D

Standards

The developed content produced by JAID Productions is based on international industry standards, and is SCORM-compliant. This allows content to be seamlessly integrated by any SCORM-compliant LMS, and guarantees usability, re-usability and sharing of all objects. Although the content is developed with high quality and rich graphics and animation, special attention is given to ensure that the end file size is small enough to guarantee its fast loading through different delivery methods. Enrichments are created using Macromedia Flash applications, and are scaleable and resizeable according to the suitable resolution.

SCORM Compliance. Shareable Content Object Reference Model (SCORM) is an XML-based framework used to define and access information about learning objects so they can be easily shared among different learning management systems (LMSs). SCORM's goal is to develop a common framework for computer and web-based learning, encouraging the creation of reusable learning content as "instructional objects." At its simplest, it is a model that references a set of interrelated technical specifications and guidelines designed to meet high-level requirements for learning content and systems. SCORM describes a "Content Aggregation Model (CAM)" and "Run-Time Environment (RTE)" for learning objects to support adaptive presentation of content based on criteria such as learner objectives, preferences and performance.

The Internet is the main vehicle for delivering SCORM-compliant content. Under this context, JAID will create and develop electronic content for e-MIS that is SCORM-compliant and SCORM-tested, consistent with the highest international standards.

MoE Quality Assurance Standards. The e-Materials to be developed through this agreement will also meet certain quality assurance standards and learning object formats that are set by the Ministry of Education. The modules themselves, as well as teacher resource materials will meet pre-agreed-upon quality standards and formats. These formats are likely to govern the following: teacher guides, teacher resources, various learning objects (case studies/decision cases, company profiles, issue profiles, industry profiles, interviews, debates, roundtables/panels, histories, individual profiles, web quests, expert concept maps, and other formats that foster higher-order thinking and problem-solving). These will be developed mutually by the Parties in the first months of the program.

Exhibit E: e-MIS Project Time Line
