Questions Sharing and Interactive Assignments
An Online System for Development, Management and Sharing Knowledge

University of Haifa, Israel - The Library | The Center for Internet Research

http://qsia.haifa.ac.il
What is QSIA?

• A pedagogical online system for Knowledge Management, which enables learning by Q&A:
  • Exercises and online training
  • Real time exams
  • Online surveys and feedback forms
  • Assignments without time or location limits

• System developed from 2001 at the Center for Internet Research at the University of Haifa

• Since 2007 its maintenance and development are anchored at the University’s library
Uses of QSIA

QSIA is aimed at:
• The single student
• Entire classes and learning communities
• Teachers
• Groups of teachers
• Departments
• Research and teaching Consortia

For:
• Learning
• Knowledge collection
• Corpora creation
• Improvement of study materials
• Knowledge management
Knowledge Sharing in QSIA

- QSIA encourages knowledge sharing among instructors and researchers by using a wide, interdisciplinary, open collective database
  - All knowledge items are saved as atomic entities and enable reuse in different contexts
  - Assignments can be created or checked by groups of instructors
- QSIA is being used by groups of instructors from many disciplines: medicine, science, foreign languages, business management...
- QSIA’s database includes thousands of knowledge items and hundreds of assignments
Knowledge Items in QSIA

- QSIA is based on “knowledge items” that are imported into the system or created individually or as a communal work product.
- Items’ creators can be teachers, coordinators, or students.
- The system has many types of items:
  - Open item / open question
  - Multiple choice item
  - True/False item
  - Data check
  - Conditional item
  - “Fill in the blanks”
  - Likert Scale
  - Text similarity
  - Matrix item
  - Text/URL item

All knowledge items might be textual or multimedia-based: images, photos, animations, simulations, video clips, or audio, and all have an aspect of time: measurement, limitation, and indication.
Knowledge Items in QSIA

- Each item includes many attributes and features, such as comments and information fields in rich text format, images, clips, links, math expressions...
  - Can be connected to information sources - textbooks, websites...
- Each item can be analyzed based on students’ ranking in their assignments and its usage history in the system
Assignments in QSIA

- Assignment is an **online activity** which may take the form of: homework, learning tasks, exam, survey and any other form of use - based on the instructor’s pedagogical aims
- Assignment is built from knowledge items for specific learning groups and for specific time periods
- The assignment has **great flexibility** in choosing and defining its attributes and options
- Items in an assignment and their grading are organized and displayed in many ways
- QSIA enables diverse options of **organization**: ordered or random for each student’s assignment:
  - Choose random items from specific repositories
  - Randomly order items in the assignment
  - Randomly order choices in multiple-choice items
Assignments in QSIA

- At the end of any activity (exam, homework, etc.) the students can reflect on their answers and change them before submission.
- Grading can be automatic, including personal adjustments, verbal comments, etc.
- Assignment can be printed and used in a traditional form.
- Security of assignment:
  - During execution of an assignment, QSIA can alert about number of connections from one computer or number of users from the same computer.
  - Instructor can hold the right answers or grades until the end of the assignment.
  - Repeat-submission can be blocked in advance.
## Execution of Assignments in QSIA

- In real time or after assignment execution the instructor can:
  - **Observe and track** her students' performance
  - Modify the items' grading
  - Export detailed *report* in various formats

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<tr>
<th>Status</th>
<th>Performing the assignment</th>
<th>Number of questions answered</th>
<th>Correct answers</th>
<th>Progress</th>
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<td>30 (100%)</td>
<td>27 (90%)</td>
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</tbody>
</table>

- **Total items:** 30

- **Time:** assignment times 15/5/2014 12:15 - 15/5/2014 14:00 (now: 4/6/2014 20:19)

**Legend:**
- 1. Did not start the assignment: 2 Students
- 2. Performing the assignment: 6 Students
- 3. Finished the assignment: 68 Students

**Colors legend:**
- The color green indicates the percent of the correct answers
- The color orange indicates the percent of the wrong answers
- The color yellow indicates the percent of the unanswered items
Instructors’ uses of **QSIA**

- Insert knowledge items to the database
- Use search engine in personal / shared database
- Organize personal information in sharable folders
- Create assignments and tasks from items in database
- Define learning groups
- Real time control over the execution of assignments and performances
- Improve knowledge items collection by getting students’ feedback
- Creating knowledge communities by sharing with colleagues and students
Students’ uses of QSIA

- After login, students see their learning groups and their active assignments
  - They may practice using the course material, with the instructor’s permission
  - They execute assignments and submit them at a specific time
- Students get numeric or verbal feedback, automatic or manual, at the end of the assignment
  - They can view their online “results sheet” at all times
- Students may create, modify or rank knowledge items
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<thead>
<tr>
<th>Title</th>
<th>Created</th>
<th>Updated</th>
<th>Last used</th>
<th>Functions</th>
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### Personal database: knowledge Items

#### Pick and click

- **Copy** to folder: -Knowledge items
- **Move** to folder: -Knowledge items
- **Delete**

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Personal database: knowledge Items

Example Item: multiple choice question

Experience question

A 26-year-old woman is brought to the emergency room by her neighbor. On physical examination she has the finding shown here. Which of the following explanations offered by the woman for the appearance of these injuries will you most likely believe?

- The neighbor's dog bit me
- I have given up my life and tried to commit suicide
- **I was pulling arrows from my son's archery target**
- I was cleaning grass out of the lawn mower
- My husband attacked me with a knife

Wrong answer Grade 0
Try again
Sharing Knowledge in QSIA

- Each item, bundle of items or assignment is:
  - Part of a personal or shared database
  - Tagged to disciplines and themes
  - Can be shared at different levels:
    - Read only
    - Copy and use
    - Modify the item itself and use it
  - Shared at different accessibility levels: user only, all groups, certain user groups

- This mechanism affords creation of assets - by the community and for the community
- Shared database accessible to faculty only
Benefits of QSIA

- Can be used from anywhere
  - No installation needed
  - Accessible from PCs, desktops, laptops, smartphones, tablets...
- Simple user management
  - Connect to your Moodle course site with QSIA
- Multi-lingual system in all its interfaces & contents
- QSIA affords flexibility in all its options
Benefits of QSIA

- **Real time control** over assignment execution by different criteria - at item and student level
- **Students get immediate results**
  - Learn from mistakes via instructors feedback
  - Correct their answers (if allowed)
  - They may write feedback about each item
- **All grades and feedbacks are saved for analytics and research use in the future**
Student review of her answer

Mikhail Sergeyevich Gorbachev (born 2 March 1931) was the sixth General Secretary of the Communist Party of the Soviet Union, serving from 1985 until 1991, and the last head of state of the USSR, serving from 1988 until its collapse in 1991. His marks were frequently discussed in the newspapers.

Gorbachev's irregular marks (head and forehead) are an example of a(n):

- choristoma
- cyst
- metaplasia
- benign tumor
- dysplasia
- malignant tumor

It is a hemangioma, often called a port-wine stain, found on the face or neck.
QSIA and your community

- **Communal creating** of knowledge items and assignments
  - Sharing knowledge between colleagues
  - Knowledge management
  - Developing organizational “memory”
- QSIA helps faculty **create a database** that defines and maps their discipline
- **Quality assurance** of the database by analyzing the ranking and feedback of students and colleagues
QSIA and your community

- Access to personal and communal information from anywhere
- All users use a **wide knowledge database** created by their colleagues from different disciplines, while maintaining private collections, privacy and autonomy
- Teaching improvement - organize the faculty’s accumulated experience
- Teams can share knowledge items and reuse them while **implementing collective work processes**
QSIA - Backstage

- Stable and secured servers on University of Haifa’s cloud
- Maintenance by the University of Haifa Library
- Personal support and on-demand development
QSIA - Some of our Clients

- Tel Aviv University - Medicine
- University of Haifa
  - Faculty of Management
  - Faculty of Humanities
  - Faculty of Social Sciences
- Technion - Children Medicine, MBA
- Ben-Gurion University of the Negev
- Chemistry teaching in Nesher’s high schools
- Learning Turkish as a foreign language
- The Open University of Israel - Business, History...
- “Sapir” Academic College
- “Carmel” Academic Center
- Intel, Bank Hapoalim - Managers Training
- The Hebrew Reali School in Haifa
- IDF Junior Command Preparatory School in Haifa
- Leo Baeck Education Center
QSIA - Research

QSIA - Research

- Bajpai, M. B. Information and Knowledge Sharing through Intranet.
- Dan-Gur, Y., Hammel, I., & Rafaeli, S. QSIA: Online Knowledge Items In the Service of Learning Communities.
- Barak, M., Dan-Gur, Y., & Toch, E. QSIA–Online Collaborative Learning and Management of Knowledge Items.
QSIA - Research

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Thank you!

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