Universität Basel

Guidance strategies in the digital era – Serious gaming for smart educational choices for life

The Serious Game like2be

Christopher Keller – September 27, 2021

Procedure

1   Theory
- ‣ Career Choice
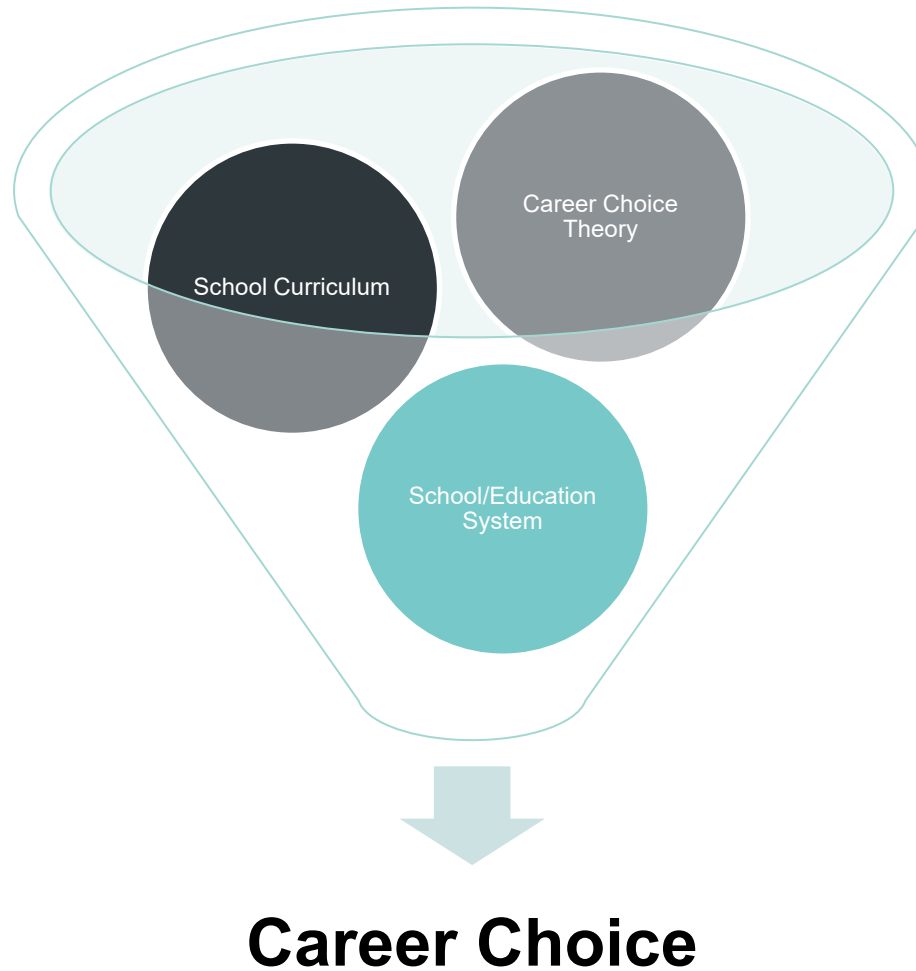- ‣ Serious Gaming
- ‣ Research about Serious Gaming

2   The Serious Game *like2be*
- ‣ Development
- ‣ Game Objectives
- ‣ Gameplay
- ‣ Mechanisms of effectiveness
- ‣ Research about *like2be*

3   Application in school lessons

4   Questions & Discussion

1 Theory: Career Choice

Career Choice

1 Theory: Career Choice
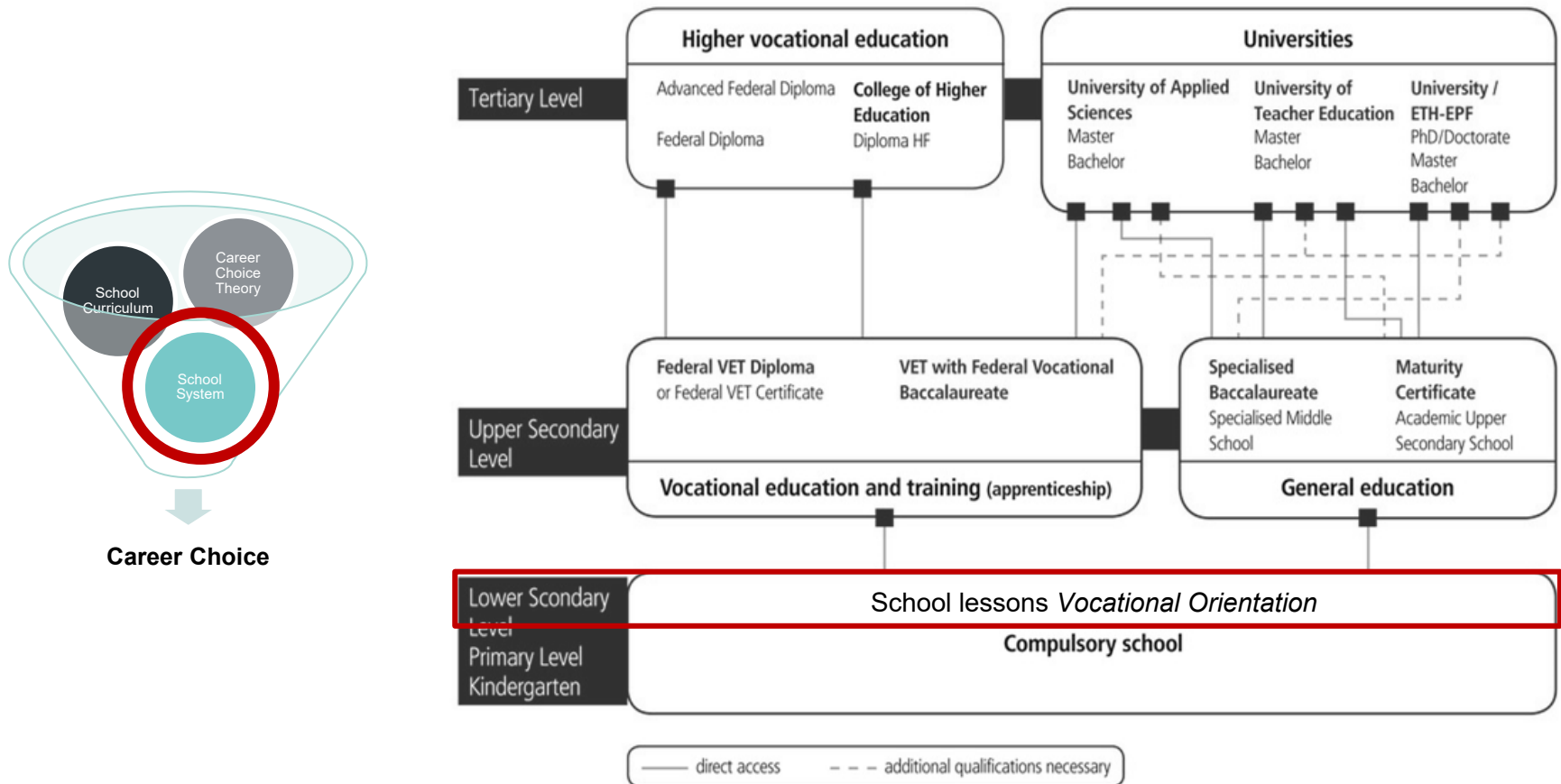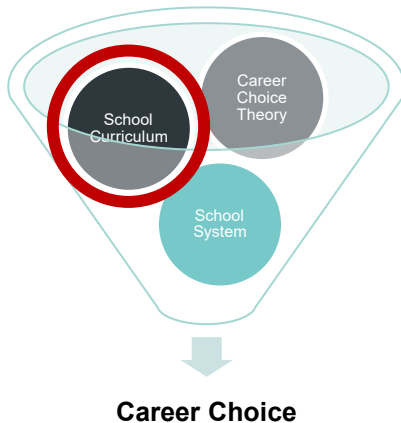

Career Choice

Figure 1: *The Swiss education system*

1 Theory: Career Choice

The focus of *Vocational orientation* in the Swiss School Curriculum

‣ Students to engage with themselves, the world of work, gender-specific, social and cultural norms and influences, and social discrimination
‣ Teachers take an accompanying, supporting and coordinating role. They encourage cooperation with school and non-school actors

The main goals of *Vocational orientation* in the Swiss School Curriculum

‣ Students can make a conscious and individual career choice decision
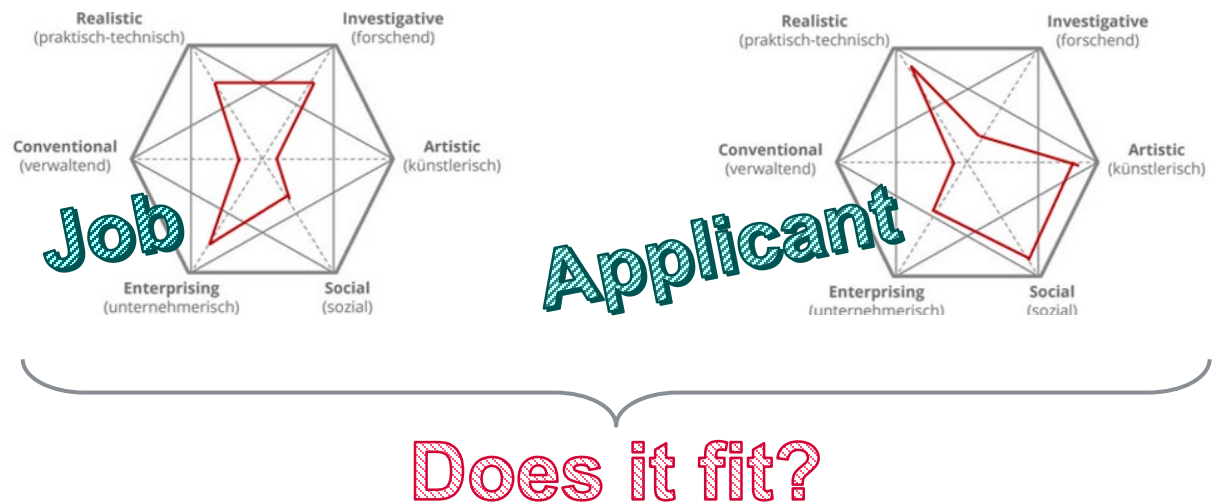‣ Successful integration of students into the labor market
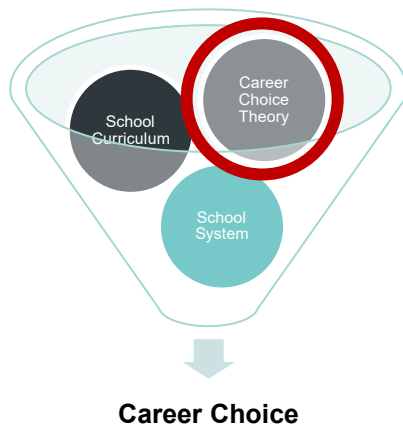
D-EDK, 2016

Career Choice

1 Theory: Career Choice

Differential psychological & typological perspective

(according to John L. Holland)

‣ Fit as harmonious connection between person and profession
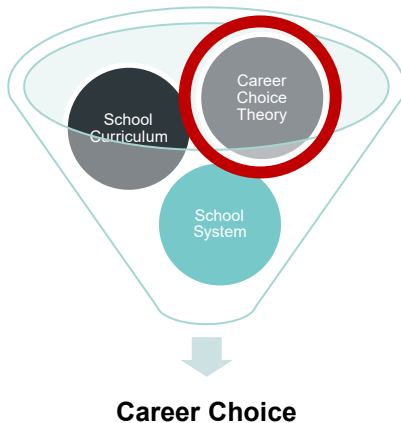

Career Choice

‣ Good fit > prerequisites for increased productivity, job satisfaction, career stability given

Holland, 1997

1 Theory: Career Choice

Social theoretical perspective (according to Linda S. Gottfredson)

‣ Social prestige and gender typology of an occupation are more decisive than personal abilities, attitudes and interests in the choice of a job

Career Choice

I'm a girl, can I become a mechanic?

I'm a boy, can I become a hairdresser?

‣ Career choice follows a pattern > Career compromise > Emergence of typical female/male professions > Reduction of opportunities

Gottfredson, 2002

1 Theory: Career Choice
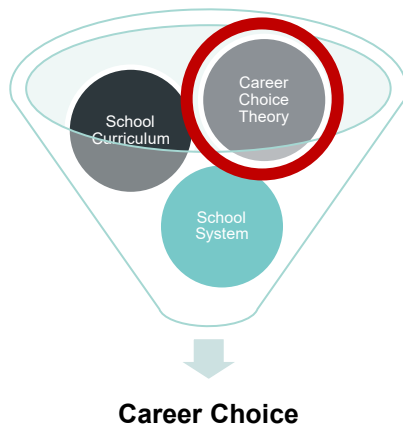
Career Choice

How to avoid a Career compromise, an emergence of typical female/male professions, and a reduction of opportunities?

‣ Raising awareness of gender-sensitive career choices
‣ Enlarge individual career choice horizon (discover many different professions)

Serious Gaming may help

1 Theory: Serious Gaming

Serious Games

‣ Computer game with "entertaining" and "simulating" format/design

‣ Developed for a specific target group

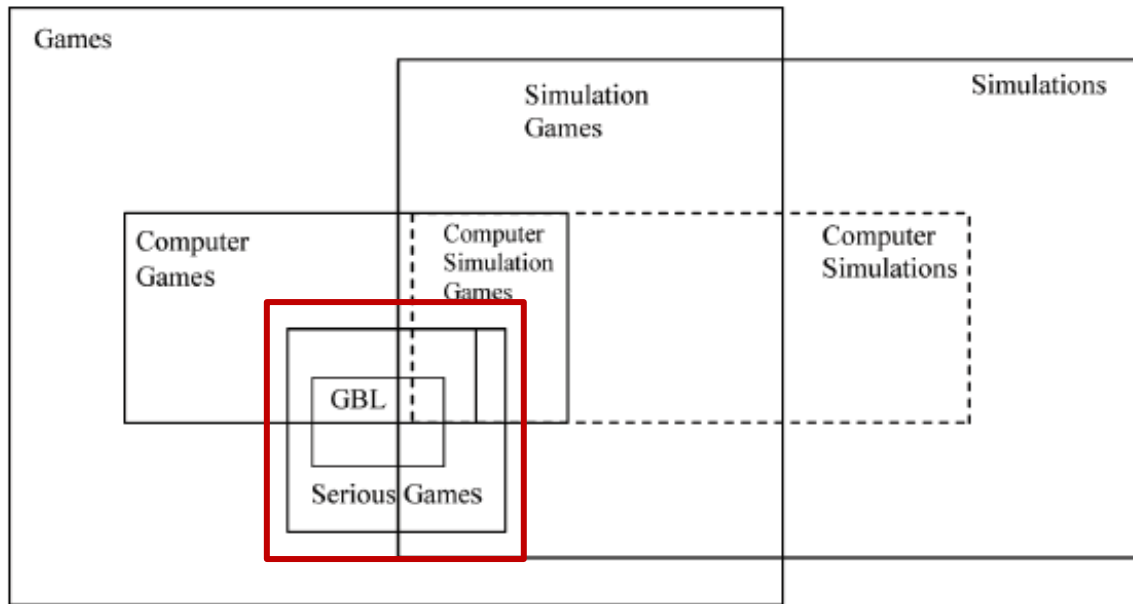‣ Intended to favor learning in a specific context

Hainey, Connolly, Stansfield & Boyle, 2011

1 Theory: Research about Serious Games

‣ Increase motivation to learn

‣ Increase interest in specific subject areas (e.g., STEM subjects)

‣ Support the acquisition of academic subject knowledge (e.g., language, history, ethics, art, math, science, etc.)

‣ Support the acquisition of language/mathematics expertise for students with dyslexia, dysgraphia, and dyscalculia

‣ Support the acquisition of learning skills/learning-precondition for students with disabilities (e.g., attention, identification of objects, collaboration, social interaction, emotion comprehension, etc.)

‣ Promote group cohesion, awareness of heterogeneity within the community, and/or help to prevent/address bullying

‣ Raise awareness of dangers on the internet

‣ Reduce school phobia

Wastiau, Kearney, & Van den Berghe, 2009; Boyle et al., 2011; Chu & Chang, 2014; Iten & Petko, 2016; Terzidou et al., 2016; Esposito et al., 2017; Vu & Feinstein, 2017; El Kah & Lakhouaja, 2018; Kosmas, Ioannou, & Retalis, 2018; Spangenberger et al., 2018; Yang, et al., 2018; Khamparia, Pandey, & Mishra, 2020; Keller, Döring & Makarova 2021

1 Theory: Research about Serious Games

Why do Serious Games support learning?

Serious Games…

… are developed specifically for certain target groups and relate to their needs.

… can increase motivation to learn because learning through play is fun.

But, …

To enable effective learning with Serious Games…

… competencies, commitment, and effort of teachers are necessary.

2 The Serious Game *like2be*: Development

The Serious Game *like2be*…

… was developed by the University of Bern with the help of various experts during the period from 2015 to 2016 as part of a research project supported by the Swiss National Science Foundation.

… is web-based and can be played free of charge with computers/tablets in German, French, and Italian language.

… was developed specifically for adolescents who are in the lower secondary school and need to make a career choice decision.

Makarova, Lüthi & Hofmann, 2017

2 The Serious Game like2be: Game Objectives

Broadening of the occupational horizon

‣ The students get to know new professions and expand their knowledge of known and unknown professions.

Examination of career choice and gender

‣ The students deal with gender roles and the gender typology of professions.

Reflection of own wishes

‣ The students deal with diverse life histories and think critically about their own abilities, interests and desires.

Makarova, Lüthi & Hofmann, 2017; IZFG, 2021

2 The Serious Game like2be: Gameplay

2 The Serious Game like2be: Gameplay

2 The Serious Game like2be: Mechanisms of effectiveness

Why is *like2be* effective?

Players compare/identify with the avatars

Application dossiers are randomly assigned to the avatars at the start of every game

Broadening of the occupational horizon
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Reflection of own wishes
‣ The students deal with diverse life histories and think critically about their own abilities, interests and desires.

Makarova et al., 2017

2 The Serious Game like2be: Research about *like2be*

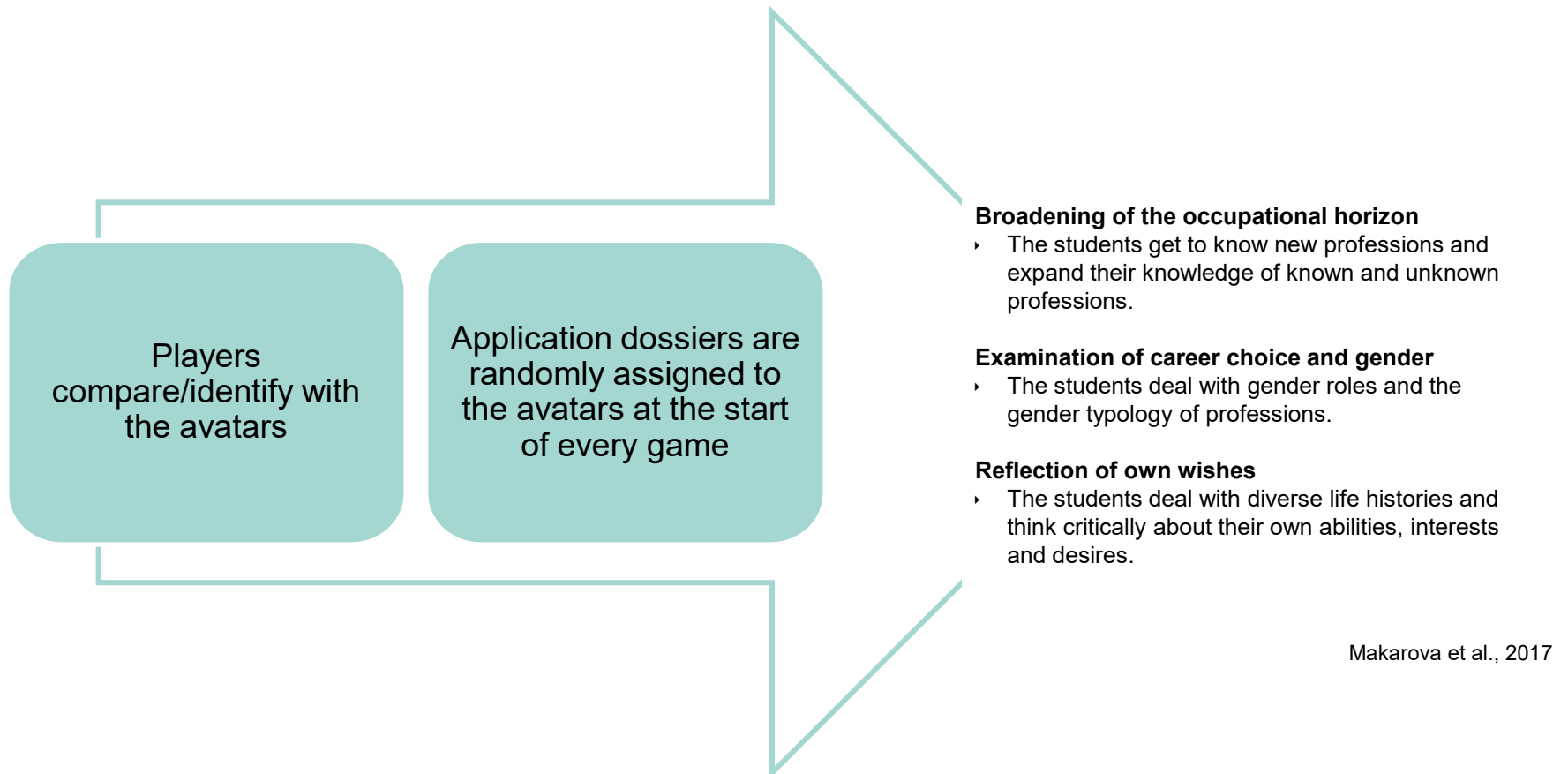## Pilot study

‣ Quasi-experimental design

    ‣ n=244

    ‣ 14 school classes (homogeneous in school level)

‣ Two groups: Treatment-group & Controll-group

‣ Two measurement time points and an intervention in between

Results

‣ The game *like2be* shows **a positive effect** on the **expansion of knowledge about professions**

‣ The game *like2be* shows **a positive effect** on the **expansion of interest** in individual professions

2 The Serious Game like2be: Research about *like2be*

Future study (November 2021)

‣ Quasi-experimental design

  ‣ n~600

  ‣ Lower Secondary level school classes of six German-speaking cantons

  ‣ Three groups: Treatment-group I, Treatment-group II & Controll-group

‣ Two measurement time points and different interventions in between

Research questions

‣ To what extent do students extend their knowledge about professions?

‣ To what extent are the students sensitized for a gender-sensitive career?

‣ How to use *like2be* in the classroom as effectively as possible?

3 *Application in school lessons*

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Themen– und Materialkarten

Vertiefungsvorschläge für den Unterricht, inklusive Materialkarten

Vielfalt der Berufswelt

Stereotype Berufsbilder

Lebensläufe & Berufswege

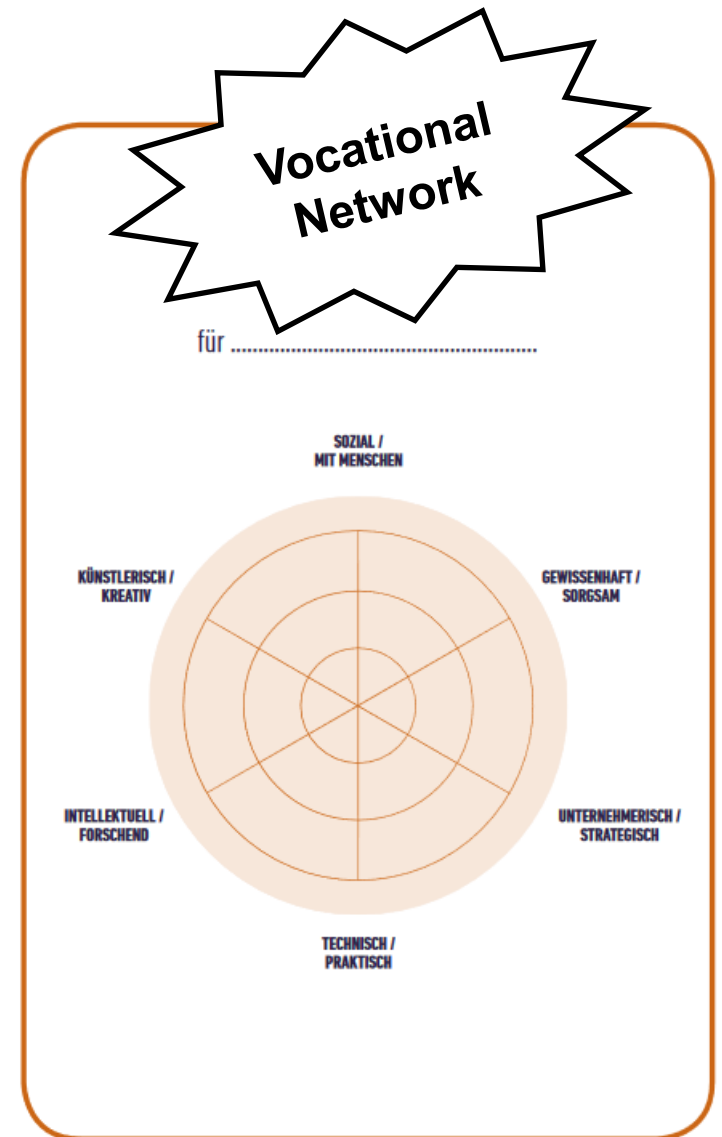## Diversity of the professional world

- Exchange information about professions
- Do research about professions
- Create a vocational network that shows personal skills and preferences as a pattern based on RIASEC code (Holland, 1997)
- Compare the personal vocational network with occupations (search for fit)

Vocational Network

für ....

SOZIAL /
MIT MENSCHEN

KÜNSTLERISCH /
KREATIV

GEWISSENHAFT /
SORGSAM

INTELLEKTUELL /
FORSCHEND

UNTERNEHMERISCH /
STRATEGISCH

TECHNISCH /
PRAKTISCH

3 *Application in school lessons*

Themen– und Materialkarten
Vertiefungsvorschläge für den Unterricht, inklusive Materialkarten

Vielfalt der Berufswelt

Stereotype Berufsbilder

Lebensläufe & Berufswege

Stereotypical job images

- Play the game *What do I work?* (→ *Who am I?*)
- Develop awareness of gender-stereotypical perceptions of professions
- Question gender stereotypes and take an independent position on them

What do I work?

Raquel

LANDSCHAFTSGÄRTNERIN
Ich plane und erstelle Gärten und Grünanlagen. Ich baue, bepflanze und pflege Wege, Plätze, Mauern, Treppen und Gärten.

Draussen — Mit den Händen — Werkzeuge — Pflanzen/Blumen

Izuagbe

COIFFEUR
Ich wasche, pflege, schneide und färbe Haare, gestalte Frisuren und berate Kundinnen und Kunden.

Drinnen — Werkzeuge — Mit den Händen — Sprache/Kommunikation

3 Application in school lessons

Themen– und Materialkarten
Vertiefungsvorschläge für den Unterricht, inklusive Materialkarten

Vielfalt der Berufswelt
Stereotype Berufsbilder
Lebensläufe & Berufswege

CV & Careers

- Play the game *What happened?* (→ *Who am I*?)
- Recognize that a CV and career can vary and being flexible
- Be able to make career biographical decisions and at the same time remain open to alternatives

What happened?

10 JAHRE SPÄTER

Hannah

Fotografin

«Dass ich mich selbständig machen würde, konnte ich mir schon früh vorstellen. Aber nicht auf dem Beruf, den ich jetzt ausübe!»

WAS IST PASSIERT?

MEINE GESCHICHTE

«Schon als ich die Ausbildung zur Fotografin gemacht habe, kam mir das Künstlerische zu kurz. Als ich dann als Fotografin arbeitete, hatte ich mehr Stress als kreative Zeit. Da habe ich mich entschlossen, mit einer Freundin eine Bar zu eröffnen. Nun arbeite ich in unserem eigenen Geschäft und habe daneben genügend Zeit für die Kunst. Ich hatte schon zwei Ausstellungen!»

10 JAHRE SPÄTER

Ahmed

Dentalassistent

«Dass ich mal mit Jugendlichen arbeiten würde, hätte ich nie gedacht!»

WAS IST PASSIERT?

MEINE GESCHICHTE

«Mir hat die Ausbildung zum Dentalassistenten gefallen. Nach ein paar Jahren suchte ich eine neue Herausforderung und ich bin zur Berufsberatung gegangen. Sie haben mich gut beraten und gesagt, ich könnte die Berufsmatur nachholen. Danach habe ich an der Fachhochschule Soziale Arbeit studiert. Nun bin ich bei der Stadt als Jugendsozialarbeiter angestellt, das gefällt mir sehr und ist extrem abwechslungsreich. Ich glaube, ich habe meinen Traumjob gefunden!»
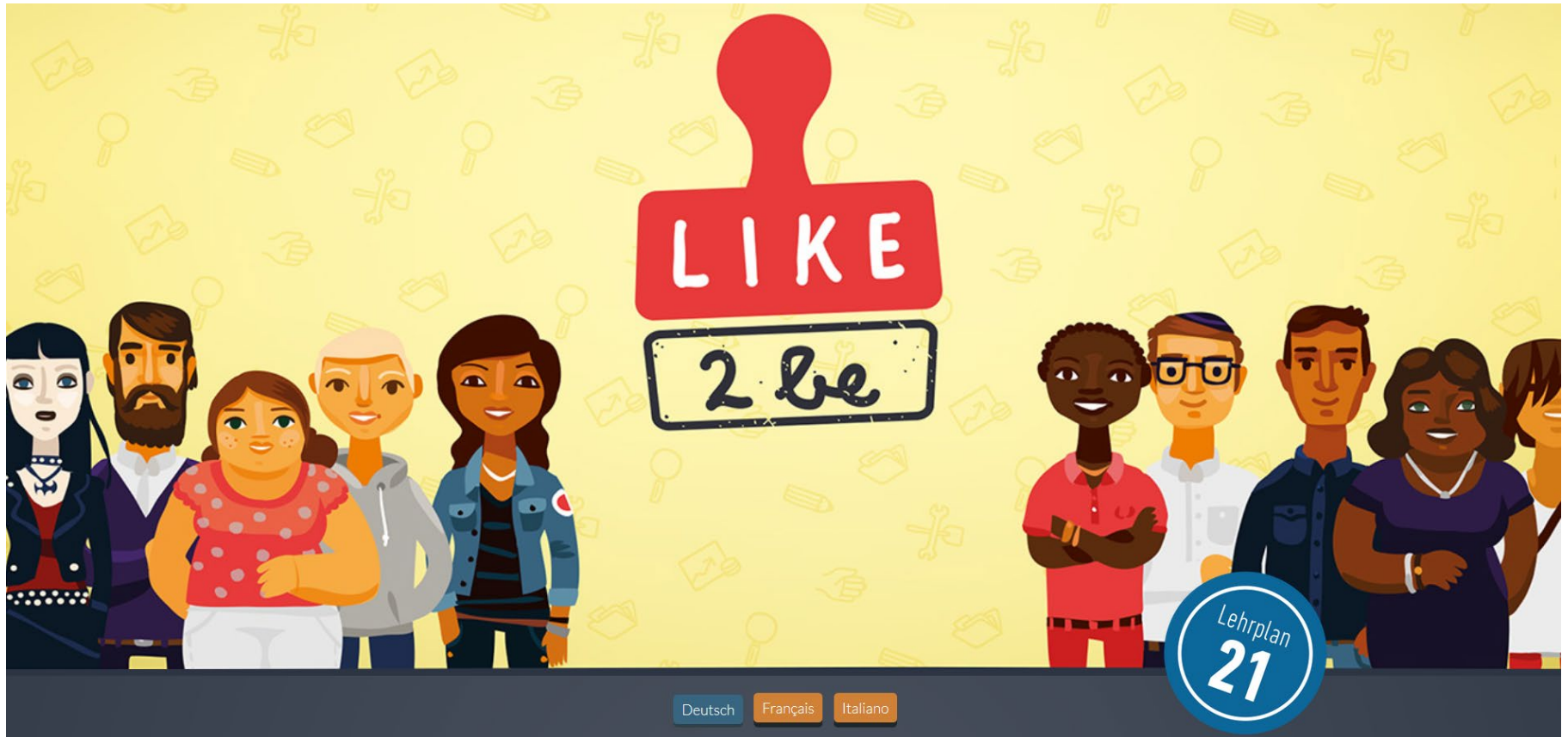
4 Questions & Discussion
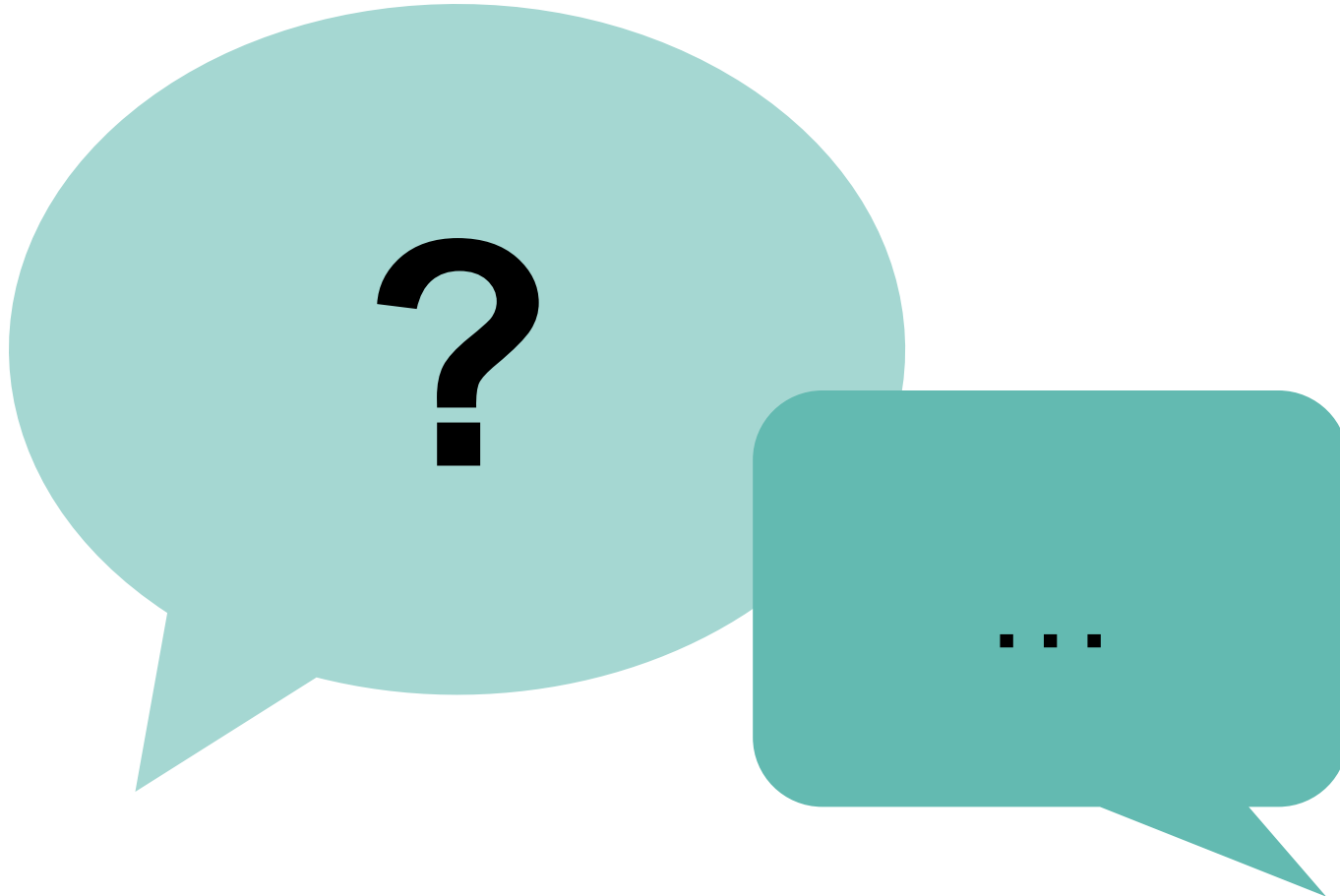
Thank you very much
for your attention.

Play the Serious Game *like2be*

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List of Figures