

The Evaluation Study of a Novel E-Mentoring Programme Designed to Improve the Psychological Management and Blood Glucose Control of Teenage Type One Diabetics

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Background:

- Around 10% of Type One Diabetic individuals in the UK are **below the age of 19**.
- The most common age of diagnosis is 12 years old, corresponding with **psychological, hormonal and social changes** that naturally transpire at this time (Silverstein *et al.*, 2005).
- Teenagers demonstrate **deterioration in effective metabolic control**, attributed to withdrawal from efficient type 1 diabetes self management and restrictive self-care regimens.
- Poor glucose control in adolescence correlates to increased level of diabetes related **complications** such as nerve and kidney damage.
- Previous mentor-directed diabetes support resulted in **improved blood glucose control, wellbeing and greater Quality of Life** (Grey, *et al.* 2013)
- We believed that specific **psycho-directed diabetes education** with peer interaction could provide a more effective way to decrease Diabetes Related Distress.

The E-Mentoring programme: (Figure 1)

- **Developed** by researchers in collaboration with the Diabetes Clinic at Worcestershire Royal Hospital.
- **Designed** to **improve psychological management and blood sugar** control of adolescent T1Ds.
- **Directed** by a **20 year old type one diabetic**.
- **Facilitates** communication with **other diabetics, via videos and chatrooms**.

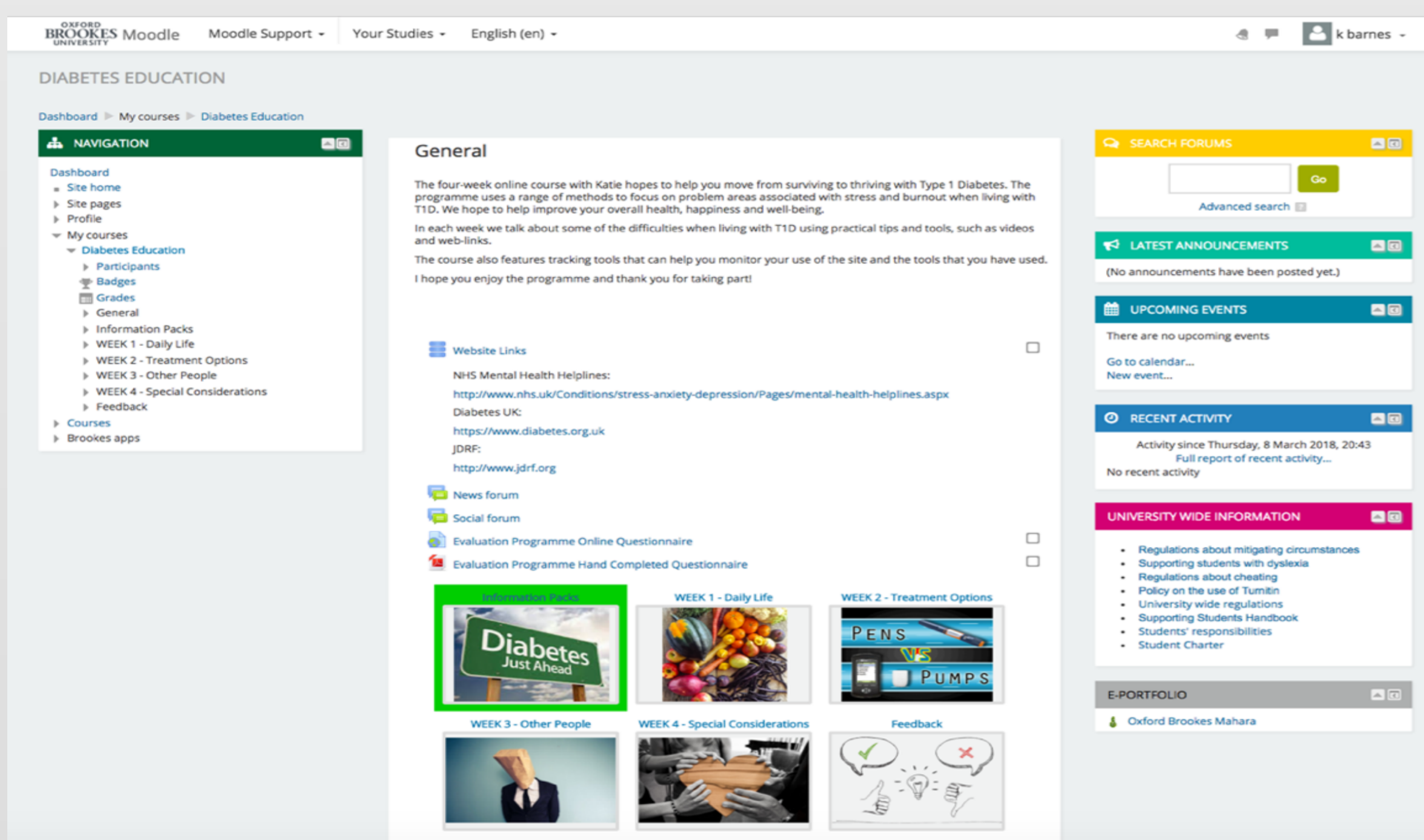


Figure 1. E-Mentoring Programme Home Page

Results:

Researchers compared responses of **level 1 or 2** rank to 'The online page is engaging' to rankings for other areas of **programme design** (Figure 3). This was repeated for **level 3 or 4** (no respondents voted for a level 5) (Figure 4).

Our results show a **positive correlation** between engagement and programme design. Therefore by achieving **successful design**, the target audience are more likely to **engage** in the E-Mentoring programme.

In addition, **personalised videos** were significantly **preferred** over **website** created videos (Figure 5).

Conclusion and Future Developments:

Areas to be **maintained**:

- Online format
- Personalised videos
- Chatrooms

Areas to be **amended**:

- Age sensitive material:
 - Sex
 - Drugs
 - Alcohol

Areas to be **included**:

- Interactive tools:
 - Quizzes
 - Interviews
 - Podcasts
- Short- and long-term goal setting

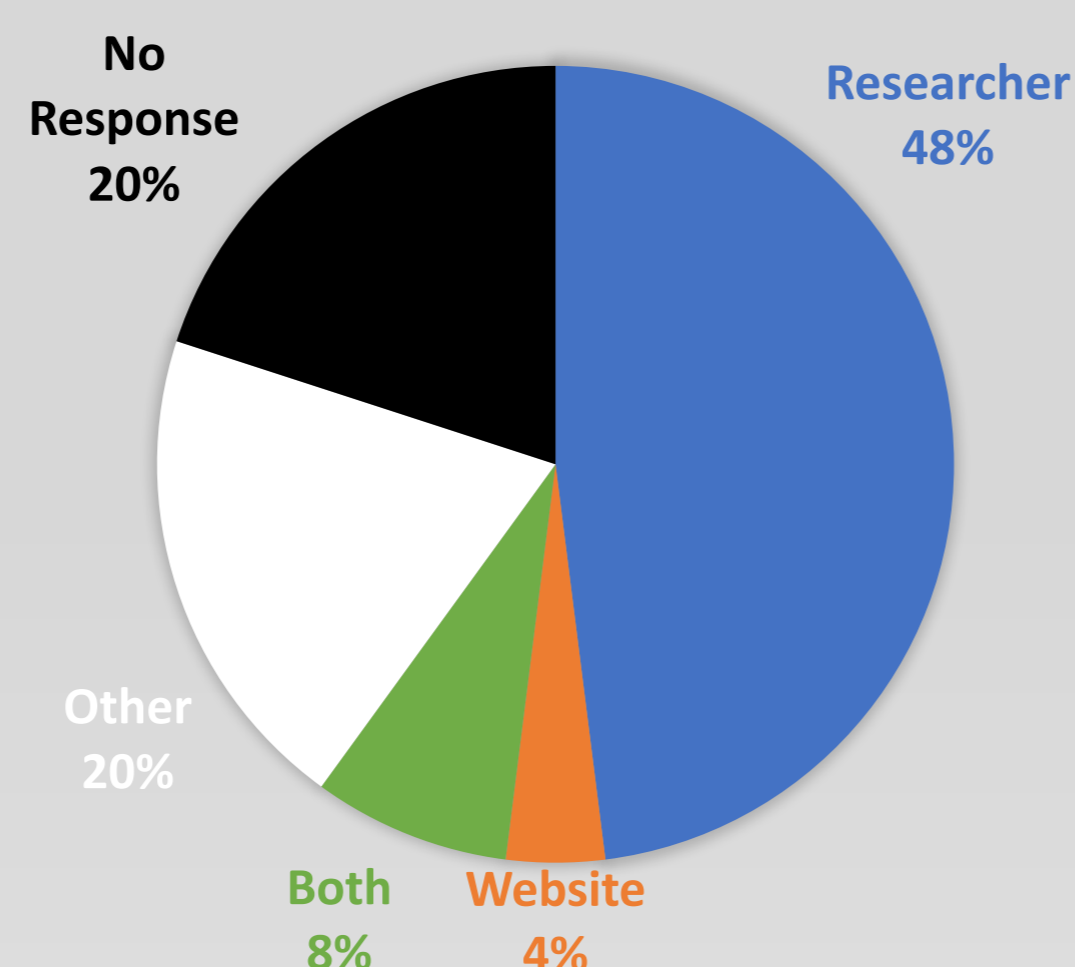


Figure 5. Percentage of responses for researcher and website created videos.

Reference:

- Garett, R., Chiu, J., Zhang, L., Young, S. (2016) 'A Literature Review: Website Design and User Engagement', *Online Journal of Communication and Media Technologies*, 6(3), pp. 1-14.
- Grey, M., Whittemore, R., Jeon, S., Murphy, K., Faulkner, M. S., Delamater, A. and TeenCope Study, G. (2013) 'Internet Psycho-Education Programs Improve Outcomes in Youth With Type 1 Diabetes', *Diabetes Care*, 36(9), pp. 2475-2482. doi: 10.2337/dc12-2199.
- Silverstein, J., Klingensmith, G., Copeland, K., Plotnick, L., Kaufman, F., Laffel, L., Deeb, L., Grey, M., Anderson, B., Holzmeister, L. A. and Clark, N. (2005) 'Care of children and adolescents with type 1 diabetes - A statement of the American Diabetes Association', *Diabetes Care*, 28(1), pp. 186-212. doi: 10.2337/diacare.28.1.186.

Objectives:

1. To highlight areas of **strength and weakness** in a novel psycho-educational E-mentoring programme for teenage type one diabetics (T1Ds).
2. Identify **crucial amendments** to the site **prior** to dissemination for the target audience.
3. Ensure the programme is **engaging** to enhanced desired outcomes – improved blood glucose control and psychological management.
4. Leading to **better diabetes control** and a **lessening burden on the NHS**.

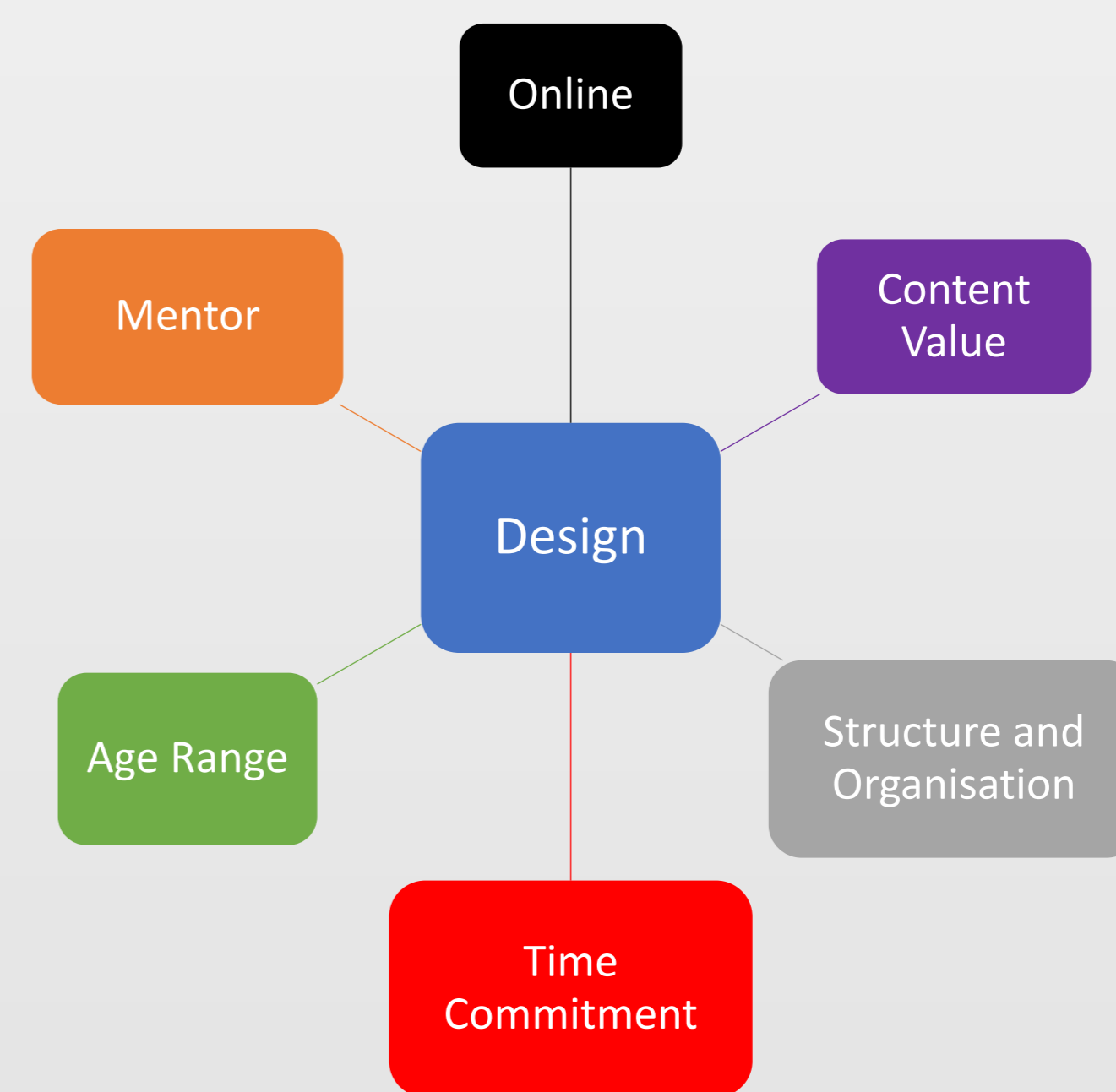


Figure 2. Elements of programme design seen to be fundamental to encourage engagement with mentoring programmes.

Method:

Effective design is noted as a critical element to **ensure engagement** in a website or mobile application (Garett, 2016). An **evaluation questionnaire** was created to **address elements of programme design** that are predicted to be fundamental to encourage engagement in E-Mentoring (Figure 2).

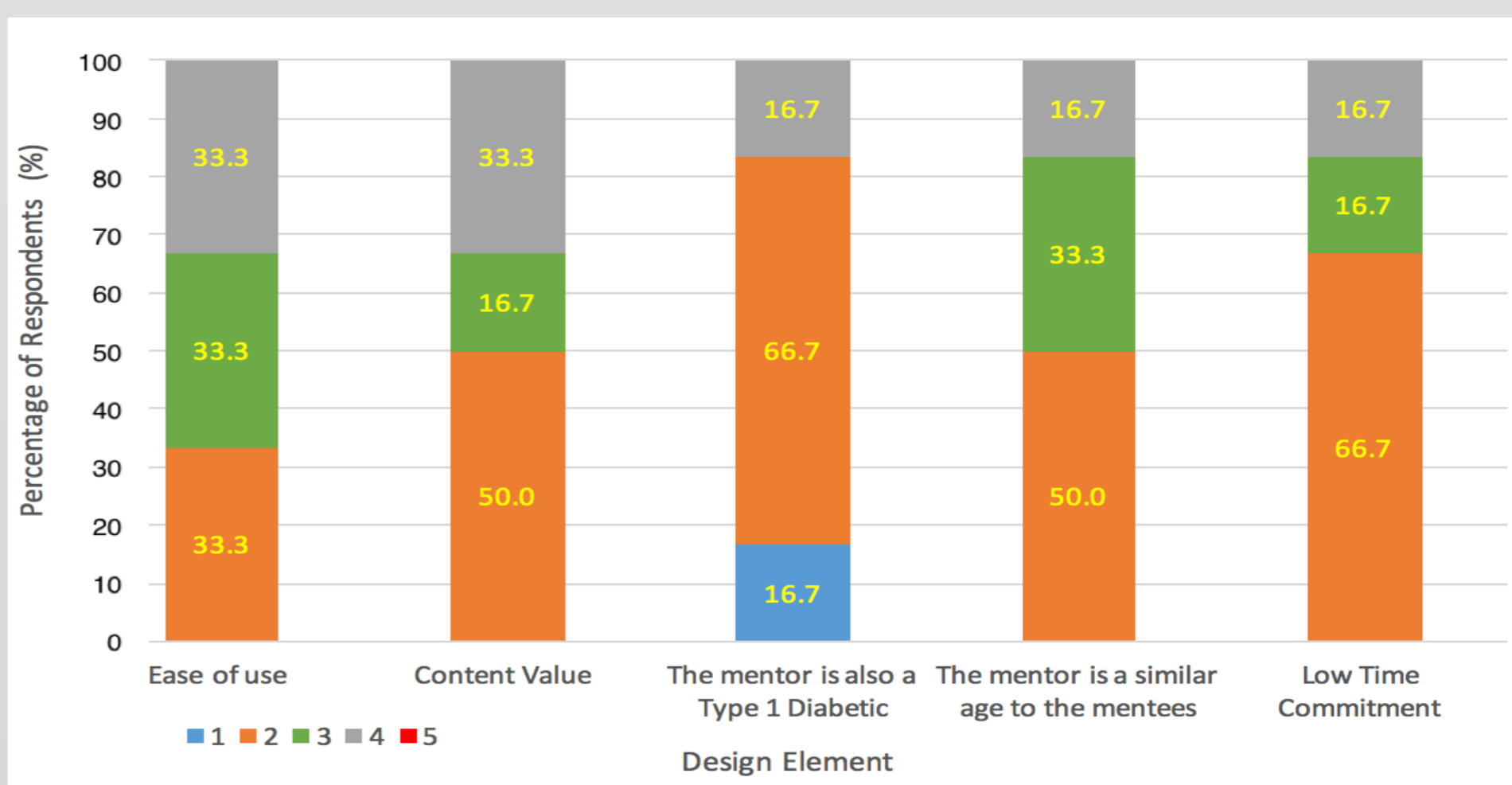


Figure 3: The correlation between ranking level 1 or 2 for the E-Mentoring programme to be engaging and ranking for other elements of programme design.

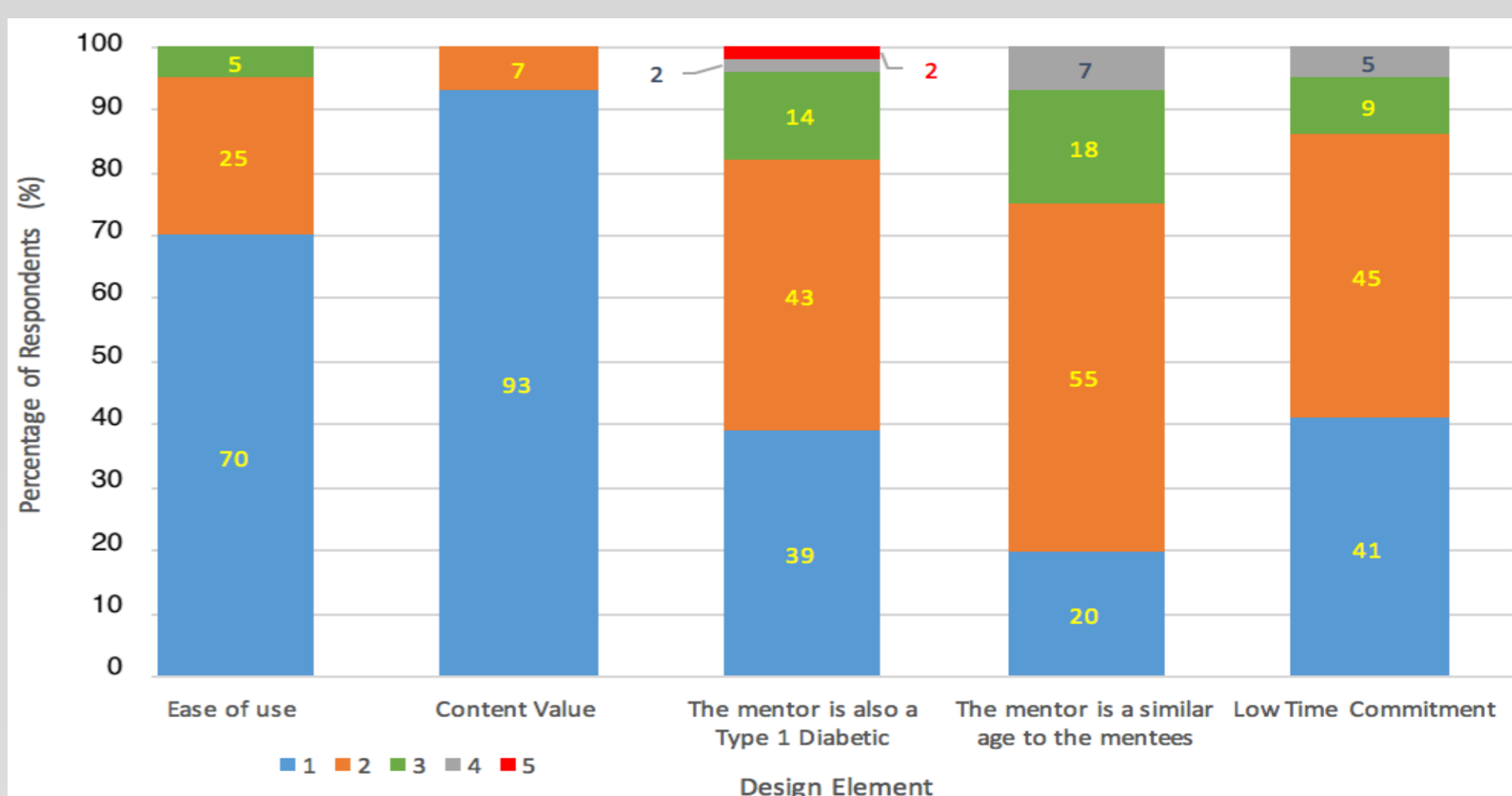


Figure 4: The correlation between ranking level 3 or 4 for the E-Mentoring programme to be engaging and ranking for other elements of programme design.